DOCUMENT RESUME

ED 149 142	CE 014 479
TITLE	Productivity and Job Security: Attrition--Benefits and Problems.
INSTITUTION	National Center for Productivity and Quality of Working Life, Washington, D.C.
PUB DATE	77
NOTE	123p.
AVAILABLE FROM	Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (Stock Number 052-003-00435-6)
EDRS PRICE	MF-$0.83 HC-$6.01 Plus Postage.
DESCRIPTORS	Case Studies; *Collective Bargaining; Contracts; Economic Research; *Employment Practices; Incentive Systems; Job Layoff; Personnel Policy; *Productivity; *Technological Advancement
IDENTIFIERS	*Job Security

ABSTRACT

Three case studies are presented to document different approaches to providing the job security which would encourage acceptance of technological changes that could result in productivity improvements. The intent is to assist union and management practitioners in handling similar problems in their own firms. Focus is on the utility of attrition clauses in collective bargaining contracts (clauses that guarantee that no employee will be laid off because of technological change, while reserving management's right not to replace anyone who leaves voluntarily). The first case tells how management and the unions of The New York Times Company devised alleviative measures in the form of attrition clauses which encouraged acceptance of productivity improvements and allowed orderly change to take place. The second is the story of how the United Steelworkers of America and the managers of Tennessee Operations of the Aluminum Company of America (ALCOA) negotiated and implemented an agreement by which the productivity of some 775 maintenance craftsmen was sharply increased without impairing their job security. The third is concerned with how Huntington Alloys, Inc., and Local 40 of the United Steelworkers of America coped with the problem of job security when an individual incentive system was replaced by a Scanlon plan. (JT)

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ED149142

Productivity and Job Security: Attrition-- Benefits and Problems

009374

Fall 1977

National Center for Productivity
and Quality of Working Life
Washington, D. C. 20036

U.S. DEPARTMENT OF HEALTH,
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The 94th Congress created the National Center for Productivity and Quality of Working Life on November 28, 1975, as an independent Federal agency. The Center's enabling legislation (P.L.94-136) establishes a national policy encouraging "productivity growth consistent with needs of the economy, the natural environment, and the needs, rights, and best interests of management, the work force, and consumers." The Center's purpose is to stimulate national efforts to implement this policy.

The Center's small staff of productivity specialists supports the Board of Directors in pursuit of seven main objectives:

- Document and recommend policies to satisfy the Nation's capital investment needs from a productivity standpoint.
- Encourage labor-management cooperation to enhance productivity and the quality of working life.
- Without compromising legislative intent, identify and recommend changes in government regulation which will improve productivity.
- Stimulate and support industry task forces formed to conduct programs for industrywide productivity improvement.
- Develop and recommend more effective approaches to improving productivity in the public sector.
- Improve the review, coordination, and integration of productivity enhancement efforts of other Federal agencies.
- Develop a better understanding of the concept of productivity and encourage better techniques for measuring productivity changes.

The Board of Directors may contain up to 27 members representing business, labor, the Federal Government, State and local governments, institutions of higher education, and others from the private and public sectors. The directors determine the Center's role and activities through committees formed to deal with substantive issues defined in an October 1975 policy statement.

The Center is located in Washington, D.C. It seeks to identify the various points of view affecting productivity growth; determine which of these views can be reconciled to further productivity improvement; and encourage within and among various groups cooperative efforts toward productivity growth.

George H. Kuper
Executive Director

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PREFACE

Productivity rises when more effective machines, methods, and skills are introduced, or when existing ones are more effectively applied. In either case, cooperation between managers and workers is vital to getting the best out of the resources at hand. Such cooperation is inhibited to the degree that the people involved fear that the consequences may harm their economic security. Although managers usually have little to worry about on this score, first-line supervisors and hourly workers are deeply concerned about working themselves out of a job.

In legislation (P. L. 94-136) establishing the National Center for Productivity and Quality of Working Life (which succeeded the National Commission on Productivity and Work Quality), Congress directed the Center to:

> ...identify, study, and review.... existing new programs, plans, and other methods, including advanced warning systems, retraining programs, retirement and separation programs, designed to counteract threats to job security which may result from efforts to improve productivity....

In fulfilling this mandate, the Center documented three approaches to providing the job security which would encourage acceptance of changes that could result in productivity improvements. These case studies, described here, are based on actual experiences. They are intended to assist union and management practitioners in handling similar problems in their own firms.

The first tells how management and the unions of The New York Times Company devised alleviative measures in the form of attrition clauses which encouraged acceptance of productivity improvements and allowed orderly change to take place. The second is the story of how the United Steelworkers of America and the managers of Tennessee Operations of the Aluminum Company of America (ALCOA) negotiated and implemented an agreement by which the productivity of some 775 maintenance craftsmen was sharply increased without impairing their job security. The third is concerned with how Huntington Alloys, Inc, and Local 40 of the United Steelworkers of America coped with the problem of job security when an individual incentive system was replaced by a Scanlon plan.

These case studies are based on information derived from onsite interviews with managers, supervisors, employees, and union leaders, from union contracts and communications, and from documentary evidence supplied by the companies. The Center is grateful to all for cooperating in making the studies possible.

The studies were carried out by Robert Zager, a consultant to the Center, under the direction of Edgar Weinberg, Assistant Director of the Center and Program Director for Human Resources.

This is the second in the Center's series of studies on productivity and job security. The first, published in early 1977, is *Productivity and Job Security: Retraining to Adapt to Technological Change*. Other studies being planned will deal with continuing education and other measures to protect the job security of workers affected by technological change and productivity improvement.

INTRODUCTION

Over the years, employers and employees have tested various ways of providing job security in the event of technological change. A familiar, commonsense means is the explicit policy that no employee shall be permanently laid off as the result of productivity improvement or technological change. When collective bargaining is involved, this policy is articulated as an attrition clause in the contract. The clause guarantees that no employee will be laid off because of technological change, but reserves management's right not to replace anyone who leaves voluntarily or through death, illness, retirement, or legitimate dismissal. Thus, individuals are protected; jobs are not; and the size of the work force runs down by attrition.

In exchange for this protection, the union agrees in writing or by implication that management may introduce technological change to increase productivity.

However, the union does not give assurance that employees, individually or in spontaneous groups, will not display apathy, foot dragging, lip-service, or surliness. As a rule both parties assume that reluctance to change is bred by insecurity and that it will yield to a guarantee of job security.

However, this proposition is not self-evident, for whenever technology changes, so do jobs. New machines, equipment, processes, systems, and methods alter working conditions, job content, and working relations. Habits, customs, and loyalties which have been built up over years may be changed. People whose self-regard is based on mastery of a particular type of work may be downgraded when their expertise becomes obsolescent. People who may have difficulty in learning new skills face the threat of becoming novices once again. Even though these changes sometimes turn out for the better, anticipation begets anxiety.

Automation and Attrition Clauses

Attrition clauses came into prominence during the late 1950s and early 1960s, when the concept of automation emerged as signifying both promise and threat. Promise of enormous productivity gain; threats of unemployment, deskilling, and dehumanization. Innumerable articles were turned out, of which a handful, based on careful study of actual cases, endure.

Drawing on the experience of 46 companies (most of them unionized, and from a wide variety of industries), which had introduced "major technological change," one of these studies, "Management, Automation, and People," derived guidelines to cope with the effects of change upon the work force. The authors (R. Beaumont and R. Helfgott) defined major technological change as sizable capital investment which is designed to yield a substantial increase in output per manhour. They reported:

> Company experience indicates that one single step--allowing the process of normal attrition to trim the work force before a change becomes effective--is most helpful in minimizing separations of employees. In most companies there is a more or less predictable degree of labor turnover due to voluntary quits, normal retirement, and deaths. Obviously, therefore, if making replacements is avoided where these eventualities materialize, a gradual movement toward work force reduction is started by natural causes. This approach was taken in most of the companies studied, and some also expedited the process by encouraging early retirement on pension among older employees.

At least 7 of the 46 companies had explicit policies of "no layoffs due to technological change."

While there is no hard evidence to tell how widely the no-layoff policy was followed in the U.S., a highly respected study (G. Shultz and A. Weber, Strategies for the Displaced Worker, Harper & Row, 1966) implies that the practice may have been widespread: 3

> Just as technical change is a fact of economic life, labor turnover may also be expected to occur in each firm and industry. As a recognition of this, the "attrition" approach is a widely endorsed method for handling some of the dislocations associated with technological change. Indeed, a familiarity with this approach can be used as a literacy test among personnel managers and union representatives today. . . .
>
> Notwithstanding the general acceptance of attrition as a basic remedy for the problems of displacement, there are hard problems in making it an effective instrument of manpower policy.
>
> When a fall in employment is foreseen for an individual establishment, preventive measures can be taken even though the exact magnitude and incidence of the displacement cannot be predicted at the time. Management can and typically does follow a policy of minimizing displacement by not hiring and allowing turnover to bring about a reduction in the work force.

Attrition Clauses Lose Popularity

Today the explicit policy of no layoffs for technological change seems to have fallen into disuse. The Comparative Survey of Major Collective Bargaining Aggreements (Manufacturing and Nonmanufacturing), compiled in

September 1974 by the Data Center of the AFL/CIO Industrial Union Department, analyzes 102 agreements that directly affect about 3,500,000 employees. Only 5 of the 102 agreements include an attrition clause, and 2 of the 5 are ambiguous. In 1972, a BLS survey of contracts covering 1,000 or more workers found that one-half of 1 percent of all contracts contained attrition clauses.

There is some evidence that the policy may be more widely used on an *ad hoc* basis rather than spelled out in formal agreements; but the same would have been true 10 years ago as well.

Why should the attrition clause have lost popularity? Informal soundings among business and union executives elicit a variety of answers:

- The attrition clause is too expensive for management.
- It works only in craft shops. Industrial unions run into severe problems due to seniority conflicts in transfers, and the like.
- Automation is no longer the bogey it was.
- Employees are more worried about recession-caused layoffs than about technological change; in practice, the two tend to merge.

- It endangers the institutional security of the union.

Although these "reasons" sound plausible enough, none are backed by convincing proofs. Remarkably, people who might be expected to show deep concern about the subject give it rather cursory attention, even though the problem of gaining employee cooperation in technological change remains as difficult as ever.

Center Studies Attrition Clause

Thus, while the attrition clause appears to be a potentially useful, if incomplete, device to facilitate technological change, little systematic study of its value seems to have been done. To learn more about attrition clauses, the National Center for Productivity and Quality of Working Life decided to examine three contrasting experiences.

The first choice was The New York Times Company, whose attrition clause was phrased as broadly as possible, to protect all employees against adverse changes resulting from productivity improvement, as well as against displacement due to economic fluctuations. It also protected almost without time limit.

The study posed the following five questions:

1. Does an attrition clause, of itself, remove employees' fear of working themselves out of a job?

2. Is it necessary that the clause also guarantee maintenance of earnings, benefits, and seniority rights?

3. When an attrition clause succeeds in ending employee insecurity, does it also promote cooperation toward higher productivity?

4. Under what conditions does a union oppose an attrition clause as a threat to the union's institutional survival?

5. Do the benefits of an attrition clause outweigh the costs?

The Times is a logical choice for this study for several reasons: it is a large, outstanding, public company in an intensely competitive industry. Its previous difficulties in introducing technological change are well known. Dramatic changes have occurred in the composing room, its largest production department, since the company and the union agreed on an attrition clause. Technological changes undertaken in the business and editorial departments with the help of an attrition clause have had rather different results. And The Times' experience illuminates both the potential and the problems of attrition clauses.

The company's automation programs still have some way to go and the investment in gaining approval was high. Nevertheless, the company remains confident that in the end the investment will pay off handsomely. If that hope should be disappointed, it will not be because employees--up to now, at any rate--have impeded technological change.

Next the Center reviewed the experience of ALCOA's Tennessee Operations, whose attrition clause was drawn much more narrowly. It protected only one part of the work force -- tradesmen of certain specialties, whose crafts were to be "unified" (i. e., merged); it protected solely against displacement resulting directly from craft-unification; and it protected for a limited period of time. Still, the clause won the cooperation of the employees in carrying out the change.

For its third study the Center chose the case of Huntington Alloys, Inc., because the parties had consciously elected to forgo the protection of an attrition clause when they agreed on a radical change of incentive systems. It turned out that the absence of such security has inhibited the parties from achieving labor-saving improvements which would have benefited both sides.

While three cases do not establish a general proposition about the value of attrition clauses, they do reinforce the promptings of common sense.

THE ATTRITION CLAUSE AT THE NEW YORK TIMES

THE COMPOSING ROOM

Prior to 1974 the process of producing a newspaper at The New York Times differed mainly only in detail and refinement from what it was in the days of Hecht and MacArthur's *Front Page*.

The process was begun by assembling editorial or advertising copy (in the form of lines of lead print) and illustrations (in the form of engravings) by hand in steel frames, first into columns and sub-pages separated by leaden lines, and then into pages. Against each page moistened pasteboard was pressed to form a relief, called a mat. The mat was baked dry, then laid in a curved container to receive molten type-metal, which hardened into a half-cylinder, or plate, bearing the reverse likeness of the mat. The plate was mounted on a printing press, inked, and rolled against a running web of newsprint to yield the printed page.

The initial stage--producing the metallic relief from which the mat is formed--was the function of the composing room. The composing room was organized into seven sub-departments, each under foremen and supervisors, operating on a three-shift basis. These sub-departments were: (1) News Machine room, using linecasting machines, turned out metal slugs faced with column-width lines of manually justified and hyphenated editorial or classified advertising copy. (2) Ad Machine room used other linecasters to make slugs of copy for display (nonclassified) advertising. (3) The Ad room took the display ad type and, carpenter-like, built it into rectangular blocks of advertising. (4) Photocomposition room also produced copy for display advertising, but by photochemical means. (5) Proof room checked proofs of the metal or photochemical copy for errors, so that corrections could be made before pages became mats. (6) Make-up room assembled the bits of type, ads, and illustrations into full pages. (7) The Machinists were responsible for maintaining all machines in the composing room.

Eight of every nine employees in the composing room, including foremen and supervisors, were (and are) skilled workers who belong to New York Typographical Union No. 6 ("Local 6"), which represents all printers in metropolitan New York newspapers. Relations between union and management were so adversarial that the chapel chairman (head of The Times' union branch) often challenged the right of non-card-carrying managers to move about the department, or required conversations to be routed through him. Foremen and supervisors attended chapel meetings but had no more say than any member in the ranks.

For its part, management asserted the right to manage, which usually meant making decisions unilaterally. It rarely informed, let alone consulted with, employees except as required by law or contract. Many people on each side believed that the other side had no interest in producing a technically praiseworthy newspaper.

Dealing thus at arm's length, management relied on money, overtime, and days off as the means of motivating people. The union devoted itself to pressing for more and more jobs at higher and higher pay. The outcome, according to management, was gross overmanning, low productivity, and uneconomic wage scales.

These conditions prevailed to some degree or other in many major American newspapers and inspired two trends in the industry: first, a growing number of nonunion shops; second, a large-scale research and development program to automate the work of composing rooms. Both of these trends peaked to full strength during the late 1960s and early 1970s.

Attempts to Modernize Frustrated

The New York Times began trying to modernize its composing room in the late 1950s, when management won the right to introduce TTS (teletypesetting, a semi-automatic method of using punched tape to run linotype machines at much higher speeds than people could). The victory was pyrrhic. The men disliked the technique and their dislike may have contributed to its failure.

In the early 1960s The Times demanded broader freedom to automate, but in 1963 Local 6 inserted into the contract a provision barring any automation unless it first approved the terms. Albeit The Times thereafter proclaimed from time to time its continuing intention to overhaul the composing room, nothing concrete came of it. However, mistrust of the company sharpened as employees became convinced that The Times contemplated--and was capable of--producing an automated newspaper at a secret plant in New Jersey. Management was rumored to be secretly training staff to perform ITU jobs under a nonunion automation program.

Local 6's ban on technological change may have contributed toward members' insecurity by weakening the ability of The Times and other New York newspapers to compete with other media. From the 1950s to the 1970s metropolitan readership declined sharply as whites and affluent members of minority groups fled to the suburbs. Metropolitan papers folded; suburban papers' circulation soared. TV cut into metropolitan newspaper advertising, while retail advertising followed shopping patterns into the suburbs. Meanwhile, the costs of newsprint, ink, and operating in midtown rose inexorably.

The New York Times as a diversified company continued to prosper, but less and less of its profits came from the paper. When economic recession struck the city in 1970, the newspapers along with the commercial printing business suffered. The Times' advertising slumped, especially its lucrative help-wanted pages, and the work force of the composing room shrank. Some 600 ITU members in commercial printing were unemployed. The grip of the recession has not yet relaxed, and even now Times employees worry more about the viability of New York's third daily, The Post, than about technological change as such.

Elsewhere in the U. S. many newspapers, including some of The Times' out-of-town subsidiaries, did manage to modernize their composing rooms during the 1960s and 1970s. As reported in Editor and Publisher on March 14, 1970, ITU's international leaders warned the membership in the mid-1960s that hot-metal linecasting would soon become "as obsolete as a Model T Ford." Unionized as well as nonunion papers automated. Those which did made undeniable gains in productivity, profitability, and working conditions.

Technology Tied to Job Security

The stalemate at The Times persisted until 1974 when Local 6 reversed its stand and demanded a deal by which management would win the right to automate, in exchange for ironclad guarantees of job- and union-security.

It does not appear that either side had offered the exchange of productivity for full security before that time. Yet insecurity had been a traditional feature of life in the composing room. Not for high-seniority printers, of course; even if automation should cut the work force in half, they would still have jobs. The junior half did have something to worry about. Management claimed that the department was overmanned, and many were reportedly on edge, waiting for the axe to fall. Lenient standards of discipline and performance added to what has been described as the sense of tomorrow-we-die.

Further, The Times, like most other papers, adhered to the pattern of laying off employees in accordance with seasonal, cyclical, and holiday fluctuations. Moreover, more than 25 percent of the staff were classed as casuals; that is, substitutes, a category that included, among others, the laidoff.

By 1974 Local 6's leaders concluded that nothing could arrest the decline in newspaper printing jobs, and that the last hope of preserving any substantial number of jobs for the future lay in helping the newspapers introduce technological changes that would restore profitability. With a hard core of safe jobs, the union could look for renewed growth when prosperity returned.

Agreement Adopted

On August 1, 1974, The New York Times and the New York Typographical Union No. 6

adopted the Special Agreement on Productivity and Job Security. The agreement is retroactive to March 31, 1973, and runs until March 30, 1984, with options to reopen on the anniversary dates in 1978 and 1981. The options pose no serious threat to the likelihood of the agreement running its full term.

The agreement sets the stage in these words:

> The parties...recognize that increasing productivity in the composing room is necessary to the health of the newspaper industry in New York City. [The agreement covers The New York News and The New York Post, in addition to The Times.] The parties further recognize that increasing productivity in the composing room will affect employment opportunities in the composing room.

Three interdependent sets of provisions are then laid down. The first gives The Times freedom to automate, disregard existing classifications and manning restrictions, and end bogus and other makework. The second recognizes union jurisdiction over all new equipment and processes in the department, and gives the employees job security, annual wage rises, a six-months paid leave, and lump-sum payments to speed attrition. The third creates mutually advantageous rules to govern retraining and the arbitration of disputes.

Prior to the agreement the union maintained vetoes over new technology, manning requirements, and the transfer of printers from one classification to another within the department, restrictions which were done away with to allow management to reconstruct composing room operations:

> The intent of this Special Agreement is to permit the Publisher to introduce and utilize automation, including any and all computers and technologically improved equipment referred to generally as automation, and any and all new methods....
>
> The employer shall determine the size of the work force except that no Guaranteed Employee shall be laid off.
>
> The manning requirements in the [previous] Contract will no longer apply. Determinations of staffing will be made by the Publisher.
>
> There shall be no limitations on transfers between classifications.
>
> When necessary, [management] may form new classifications... involving new methods or automated processes.

16 Although the former five classifications

have been retained for most purposes, any printer may be assigned anywhere in or out of the department, and may be rotated among jobs to meet operating needs.

The Times Automates

The Times has availed itself of the new freedom to automate, as fully as it could. By comparison with other newspapers which began automating earlier, the changes are modest; by comparison with The Times' own past, they are breathtaking, a transition, essentially, from an age of steel and lead to one of film and electrons.

Two fundamental technological changes have been introduced: "cold type" processes have fully replaced "hot type" for all advertising composition and computer control has replaced manual in over 80 percent of the work. In hot type a linecasting machine casts lines of type from molten lead in response to a manually operated keyboard; individual lines are then assembled manually into paragraphs, stories, and columns. In cold type a phototypesetting machine manipulates electron beams and light rays to create photographic images of letters, lines, etc. These images are projected onto photosensitive paper, developed, dried, and pasted together to compose the image of a page. The paste-up page is then converted into a metallic relief suitable for making a mat.

Before the 1974 agreement The Times had 139 linotype machines, second only to the number owned by the U. S. Government

Printing Office. Of these, 110 were in News Machine room and 29 in Ad Machine room; now there are, respectively, 91 and none. The departed News Machine linecasters have given way to optical scanning (OCR) devices which "read" coded copy prepared on special typewriters and transmit the resultant electrical impulses to a computer. The computer justifies, hyphenates, and stores the lines of copy, and feeds them on call to a photocomposing machine.

In Ad Machine room also the work of linecasters is now performed electronically. Display advertising copy is typed on a special keyboard and read via OCR to produce a tape which activates a computer terminal with a cathode ray display tube. An operator at the terminal calls up the words of an advertisement and arranges lines, type faces, and sizes to suit the prescribed layout. When he is satisfied with the result, he orders a computer to create a justified tape which will drive the phototypesetter.

Make-up has become paste-up.

The Times started making changes at once after the agreement was ratified: by November 1974 stock exchange reports were being produced by photocomposition, with great improvements in clarity, accuracy, and completeness; by February 1975 most display advertising was being phototypeset. The biggest change took place on August 18, 1975, with the inauguration of photocomposition of all classified advertising, when The Times reported:

> Under the automated system, the selecting and sorting of the classified ads for a typical Sunday issue of The New York Times, which used to take three days, can now be accomplished in 20 minutes. . . . The switch to photocomposition had awaited development of complex computer programs to perform the various functions done by hand up to now. It also required that all classified copy be typed on special forms with an IBM Selectric typewriter using a Courier 12 element, the typical ball. Because 70 percent of the copy is prepared by advertising agencies, training sessions were conducted for their staffs. These forms are read by an ECRM optical character-reader that enters them into an Interdata Model 70 computer developed by The Times....The computer [is] instructed to search its file, find each of the ads for [a given date], classify them, alphabetize them within each class and arrange them by size within the alphabetical group. The results [are] fed into an MCD Metroset photocomposition machine, which produces strips that [are] photographically developed into newspaper columns, which in turn [are] pasted up into pages.

Besides shaving production time, the new classified ad process has reduced drastically the number of errors, a matter of prime importance, since customers do not pay for erroneous ads. Ads in need of changes or corrections are more accessible and it is also easier to discover omissions and misclassifications. The new system not only bypasses the "kills," corrections, and substitutions of the old, but also compiles far more accurate information about customers, dates, and linage than ever before available to accounting and billing departments. Credit checking, rating, and billing are all automatic byproducts of the system.

As yet only 25 percent of editorial copy is processed by the new technology. To automate the remaining 75 percent will require more sophisticated computer programs and a major revision of editorial working practices. More computers may be needed for redundancy and backup. It may also require more reliable computers for editing live news stories, which continue between editions and right down to the wire. Stock reports and ads can be entrusted to the computer because they can be prepared in advance and no last-minute changes need be included; however, should a computer with news stories go awry while on "real time," chaos would ensue.

While neither managers nor employees are satisfied with either the technical quality of the newspaper or individual productivity, both claim a steady improvement in quality in the automated departments and a reduction in overtime from the preautomation figure of 2,000 hours a week to 500. In News Machine room alone overtime has fallen from 1,500 hours a week to nil, though it does rise to meet peak volume requirements. Meanwhile, the manning of the composing room has declined from 830 ITU employees (630 regulars plus 200 substitutes) and 97 Guild members (noncraftsmen), to 685 ITU (all regulars) and 88 Guild.

New Jobs Result

New technology has meant new kinds of jobs, some more interesting, some less. The changeover has allowed employees to make a fresh start, with some who had been considered goof-offs and troublemakers having responded positively to the opportunity to assume greater responsibility and now regarded as among the best workers.

In the new, cleaner, quieter surroundings eye and brain seem to replace muscle, and individuals become human again. Operators sit at silent cathode ray terminals to correct classified copy or lay out display copy. Overalls are no longer needed or worn. However, some printers regret the loss of the linecasters which, while they may have been dirty and noisy, radiated excitement and hulking strength.

Greatest enthusiasm has been generated by those jobs demanding the highest levels of intelligence, education, or printing experience. Invitations to train for computer programming or for operation of optical scanning machines and make-up terminals are heavily oversubscribed. Machinists are enjoying the increased variety and challenge, even when they have to struggle against the limitations of their past education.

Many of the other jobs, however, which center on the operation of a typewriter-like keyboard, spark little interest. Although this keyboard differs somewhat from the linecaster and has therefore necessitated substantial retraining, the computer has taken over such decisionmaking activities as justifying lines or hyphenating words, leaving a job which, in the operators' opinion, can be performed by any intelligent person whether he has had printing experience or not. Management tries to redeem the loss by training operators to perform a cluster of related jobs and rotating them frequently, a practice which the printers accept as necessary and well-meant, but unsatisfying. Most would prefer to stay on a single important task than rotate through a group of less-important ones.

On balance, the consensus is that employees find the new jobs more interesting than they had feared before the agreement. They hope interest will not wane as operations become more routine.

A few minor problems have arisen. Reportedly, men accustomed to working on their feet are disturbed by new sedentary jobs and naturally gregarious individuals are disoriented by solitary assignments. Make-up men are also said to find it more awkward and time-consuming to cut bits of paper and rearrange them into pages, than it was to move slugs, blanks, and lines of metal.

The technological modernization program has been accompanied by a concerted management drive to modernize relations between management and employees and the union. Directly after the agreement was ratified, most of the employees in the department accepted an opportunity to watch a film describing the major anticipated changes. Since his arrival three years ago, the composing room production manager has gone out of his way to broaden areas of common ground. He, his foremen, and his supervisors make a point of meeting with union officials and employees informally, in nonconflict situations. They also use the notice board to let employees know about intended purchases of equipment, the expected operation of the equipment, and even operational failures. Printers and supervisors have reacted by taking new responsibilities and showing initiative, without special monetary inducements. Employees have been invited formally and informally to suggest improvements, and they have responded with good will.

No disputes of consequence have marred the course of automation. Cooperation among the employees themselves is easier; people are more inclined to talk to one another as members of a common enterprise; they no longer exercise themselves about doing more than the next man. Fear of working themselves out of a job by doing more than the minimum has all but gone. People are less often heard to say, "I just work here." Some have taken advantage of The Times' offer to help them buy stock in the company.

Fears Persist

Some worries linger on. In the back of peoples' minds is the fear that if they should ever again have to strike, management could probably publish for a long time without them. Every employee in the department shares the memory of having started as a substitute, a casual employee with few rights. Some still feel it is ideologically wrong to cooperate with management.

The agreement provides job security far beyond the assurance that employees will not lose jobs as a result of technological change. It guarantees lifetime employment, subject only to (1) discharge for cause, and (2) the newspaper ceasing to publish:

> The employment guarantees and discharge provision of this special agreement shall . . . remain in full force and effect for as long as any named employee remains a member of the bargaining unit and in the employ of the Publisher. . . .
>
> A Guaranteed Employee shall not be subject to a decrease in the force. This guarantee survives the term of the special agreement and the contract.
>
> The Publishers recognize that

> illness or other compelling circumstances may render a Guaranteed Employee who is a situation holder unable to work five shifts a week. In such a case, a schedule will be arranged by mutual consent. . . .
>
> The employment guarantees... of this special agreement, including the survival of such employment guarantees . . . shall enure to the successors and assigns of any... signatory.
>
> Only in the event of a permanent suspension of the Publisher's newspaper will the employment guarantees . . . cease.

The union insists that any less-inclusive definition of job security would not have been adequate to the needs of the situation.

As members of the local, supervisors are entitled to the same security as rank and file. But while they cannot be disemployed, neither is The Times bound to keep them in supervisory positions. Thus, with the rundown of composing room staff there has been a proportionate reduction in first-level supervisors, from 110 to 91. (The number of foremen has not diminished, since the number of subdepartments and shifts has not changed.) Supervisors whose positions become redundant have the right to step back into the ranks, and many have done so. To 25 minimize disappointment without stirring discontent among the ranks, the supervisor's pay is "red-circled"; he continues at his current salary level until contractual increases pull the others up to him. Still, the loss of status and potential has dealt a severe blow, and a few supervisors with long seniority have chosen to retire.

Substitutes have gained most from the agreement. Before August 1974 the composing room, reflecting ancient craft traditions, maintained two categories of employment situation, regulars and substitutes. A regular situation comprised five day shifts or five night shifts or five lobster (early morning) shifts per week. Any other arrangement counted as a substitute situation. A "sub" might work one, two, or five shifts a week, filling in for regulars, but his employment was treated as casual. Hundreds of Times printers fell into this category and many of them felt deeply insecure. As of May 23, 1974, when the special agreement was tentatively settled, about 200 substitutes were seeking and available for regular situations at The Times. The agreement declares them, along with all regular situation holders, to be Guaranteed Employees.

Union Security Guaranteed

The agreement also guarantees the security of the union. With specified exceptions, all composing room work will continue to be done by ITU members. Once their training is sufficient, they will even program and operate the department's special-purpose computers (unless the vendor provides programming) as well as other electronic gear. Editors may proofread editorial copy, but whenever proofreading is required, the copy must go to ITU proofreaders for final corrections.

Automation may add new ITU members because it may foster the expansion of maintenance staff. Each piece of complex electronic equipment needs more care than the old mechanical equipment because the effects of a breakdown are more widespread and costly. If the complexities prove too great for present ITU machinists, electronic technicians may be brought in from outside, but they will have to join ITU, and will be expected to teach their skills to the old hands.

These measures protect employees and union alike, as does the provision that employees who take severance will not seek future employment within Local 6's jurisdiction.

Under the agreement, composing room employees gained three monetary improvements: annual increases, a termination incentive bonus, and paid productivity leave.

Wages and benefits are to rise each year according to a formula: 2 percent as a straight wage increase; an additional 1 percent for productivity; and a cost of living factor. Established fringe benefits are to increase proportionately. Given the history of wage bargaining at The Times, the

1 percent productivity factor appears to be the principal departure.

As of 1975, composing room employees have been earning, on average, about $20,000 a year in wages and benefits (not counting overtime).

Another feature of the agreement is a lump-sum payment designed to encourage severing of employment:

> Because the parties foresee that as productivity in the composing room increases, there will be for a period an excess number of employees, they agree that Guaranteed Employees who terminate their services...for any reason within six months of the date of ratification of this Special Agreement shall receive a termination incentive bonus of $2,500.

This offer was grasped by 106 employees, mainly of long seniority. Those among them who were eligible for retirement also took advantage of the provision which allowed them to claim 26 weeks of payment in lieu of productivity leave; each went off with $10,500 in cash. (Quite a few had been eligible to retire in previous years but had held off, sensing that a deal was in the wind for 1975.) Their departure in January 1975 left management in an uncomfortable situation, not because of the money, which had been discounted, but because the actual "excess number of employees" was much less than

106. It had been anticipated that the department's manpower needs would drop sharply as soon as the agreement came into effect. That did not happen. Only with the full automation of classified advertising, which occurred seven months later, did the pinch ease.

The bonus also had the effect of lessening competition for scarce newspaper jobs in the area, since each employee who applied for the bonus was required to notify the union in writing "that he will not seek work at the trade in the geographical jurisdiction of New York Typographical Union No. 6."

No one has kept track in any organized fashion of the employees who took the bonus, but it is generally believed that most have retired to sunnier States.

Paid Productivity Leave

Paid productivity leave is described in the agreement as follows:

> In order to ease the transition from a traditional to an automated composing room operation and in recognition of their contribution to increasing productivity in the composing room, the Publisher shall provide to each Guaranteed Employee before March 31, 1984, six months (26 weeks) paid productivity leave.

Employees who retire before enjoying the leave are entitled to payment in lieu.

Four closely printed pages of text detail all the combinations and permutations for achieving paid productivity leave. These insure employees against any imaginable event, even death, which might intervene.

Productivity leaves were envisaged as a means of reducing the number of redundant printers, but redundancies have developed much more slowly than expected. In 1975, 48 employees took productivity leaves (usually for less than the full 26 weeks), and 8 employees retired with partial leaves. In 1976, as of mid-May, 94 took some part of their leaves, and 2 retired with partial leaves. It is hoped that in a year or two further progress in automation will allow 50 employees to be on leave at all times.

As with the termination incentive bonus, "before receiving paid productivity leave or pay in lieu of leave" an employee is required to "notify the Union in writing that he will not seek work at the trade" in Local 6's jurisdiction.

According to the agreement, the parties accept mutual responsibility in training:

> The Publisher ... shall establish programs and select trainees.... Senior employees shall not be unreasonably bypassed in selection of trainees .... Employees shall accept training opportunities and

> make every effort to become competent in performing the assignments for which they are being trained....

Because of new processes and equipment, composing room jobs have had to be redesigned. Some employees have shifted from one keyboard to another; e.g., linotypists have become typists. Others have had to learn altogether different skills; e.g., machinists who used to make repairs with a hammer now tend electronic circuitry and delicate mechanisms. Still others have had to learn to do essentially the same operations with completely different materials.

For the most part, employees have trained on the job, and The Times has provided full-time training for standardized skills, such as keyboarding. Off-the-job training has been discouraged by the unpredictability of arrival dates for new systems and equipment; some people who took classroom training found that the equipment they were trained to operate would not reach the department until months later. In addition, managers unfamiliar with the operation of the new equipment have had to rely on know-how supplied by the manufacturers which has not always been specific to The Times' needs.

Employees Seek Training

Yet employees have done more than merely accept training; they have actively sought and made good use of it. When, early on, management invited the composing room employees to train for computer programming, some 200 applied, of whom about 50 qualified: a tribute to the intelligence of the group. Only four actual programming jobs have developed to date.

Printers who were given training to operate optical scanners asked for more, and those who had difficulty requested help and voluntarily stayed after class to get it. Even for less sophisticated jobs so many have volunteered that management has had to be selective. Printers who are not chosen complain about the delay. All this is a far cry from the days when management used to beg union officers to supply trainees for TTS.

In selecting trainees, management has evolved a five-step procedure with which the union has found no fault. First, the function to be automated is examined. Second, the people who will be most affected by the change are considered. Third, the availability of employees is considered: e.g., can day shift spare people more readily than the night or lobster shifts? Fourth, those who have volunteered are assessed. Fifth, weight is given to seniority.

Understandably the younger employees seem to be more eager than the old for retraining. They will still be in mid-career when the agreement expires, and want to ensure that their future jobs will be as indispensable as possible. That the remaining linecasting machines will be phased out slowly allows management to gratify the seniors' desire not to change unless they have to. But no one doubts that if the senior linotypists had to retrain they would do their best.

About half of the work force is estimated to have received retraining. Keyboard operators were trained full time for nine weeks each. Ad room mark-up terminal operators were trained full time for two weeks and then on the job. Even proofreaders have been trained to read the new typewriter coding system. In all, 29,000 man-hours were devoted to training in 1975, equivalent to more than one week for every employee in the composing room. These figures do not include the training of advertising agency employees to type copy which can go directly onto The Times' optical scanners, or the training of The Times' own employees in Accounting or Classified Sales.

Management believes that training will continue to be needed for a few years. Printers will likely want to attend technical schools, with Times support, and learn how a modern composing room as a whole functions.

Lastly, in dealing with arbitration, the agreement calls for the parties to designate a permanent arbitrator "whose knowledge and experience can provide needed continuity to interpretations of this Special Agreement." No disputes have yet had to be submitted, but the provision is a wise one.

BUSINESS AND EDITORIAL DEPARTMENTS

The Newspaper Guild of New York bargains for all newspaper employees of The New York

Times who do not belong to the craft unions; i.e., the business and editorial staff. The classifications encompass almost 300 different jobs, among them Accounting Service Clerk, Baker, Building Utility Serviceperson, Columnist, Display Advertising Salesperson, Typist, and Waitress/Waiter. Times Guild membership is about 2,200, including part-timers, casuals, and temporaries.

In 1965 the Guild and The Times entered into an agreement, renewed at subsequent intervals, whereby management is free to introduce technological changes and subcontract, in exchange for job security. The agreement was stimulated by changes which had taken place two years previously, during the height of the automation scare; at that time elevators were automated as well as part of the telephone switchboard. Although The Times had given plenty of notice and had counselled and helped to find other jobs, many of the 60 men and women displaced were long-service employees. Guild members were up in arms, and, at the 1965 negotiations, demanded a veto over further automation similar to that already won by the craft unions. The Times refused, a strike ensued, and eventually a mediator settled it by devising the agreement that still prevails.

In addition to job security, the agreement provides union security, retraining and transfer of affected employees, and the right of affected employees to take severance.

Before 1965, the Guild had not hindered management from automating or subcontracting, nor had it sought to control manning tables, in which respects it differed basically from ITU. Nonetheless, management thought that low productivity, overmanning, and above-normal salaries were as endemic to the business and editorial areas as to the composing room, and its incentive to automate was just as strong.

Despite management's freedom to automate, only 75 Guild employees were displaced between 1965 and 1974. Another 100 were displaced in 1975. Many avoided displacement by taking advantage of the attractive severance terms.

Job changes have been less dramatic than in the composing room, because most work involved paper-shuffling rather than physicochemical processes. The most visible change is the cleaner, quieter, more pleasant environment made possible by the new electronic devices; for example, the old addressograph machine has been replaced by a computer terminal with a cathode ray display tube.

Progress Related to Composing Room

Much of the progress since 1974 is related to the success in the composing room. It occurred in the Advertising Accounting department, the largest single business-area project, and has resulted from computerizing classified advertising.

Processing classified advertising data manually was always a mare's nest. An enormous potential for production and accounting errors was generated by the volume of classified advertising alone, which once ran to a high of 125,000 insertions a month. Misprints and misplacements occurred in abundance. Control of corrections, expired ads, and reorders were handled on a hit-or-miss basis. Errors crept in at every stage, in checking galleys against copy, measuring and marking linage on the copy, sending copy back for corrections, checking credit status, microfilming, and charging. Resulting revenue losses and customer complaints were sources of despair.

Although many in the department doubted, on the basis of past experience, that the new computerized system could bring order out of confusion, the changeover went slowly, as the components became available, and smoothly.

Each piece of copy is coded with all the information needed for both printing and accounting control. The optical scanner which reads the copy also tells the computer what, where, and when to print, and whom and how much to charge. Errors from miscoding copy are relatively few because coding is carefully checked. Some errors occur in optical scanning, but these will diminish as laser scanning comes in. Overall, the volume of printing errors in classified has been halved, and accounting control has benefited even more. The department intends to automate further at the same deliberate pace.

A rather smaller project has been conducted in the Subscription Fulfillment department. This unit is responsible for ensuring that subscribers actually get their copies of The Times and that those who receive the papers pay for them. The project is expected to eliminate omissions and duplications, and produce control information much more rapidly than the manual system. It is still in the debugging stage.

The only other departments in which job displacements have occurred are in the communications area: telephone switchboards, telex, news service. Interestingly, one of the largest staff reductions in these departments resulted not from automation but from a straightforward change in organizational structure.

All the evidence here, as in the composing room, affirms that since the agreement the union and the employees seem to have accepted technological change.

Displaced Employees Pose Problems

The great gulf between the experience of the Guild and the composing room results from the fate of displaced employees. For while the composing room has yet to encounter the problem, in the business and editorial departments the treatment of displaced employees has been a nagging headache. Displaced people who were given new jobs in their original departments have accepted the change. However, there is evidence that some employees who were transferred have been demoralized enough to impede the work of their new units. Should their discontent percolate through the organization, the progress of technological change might be affected.

Why should only 75 employees have been displaced in the first nine years of the agreement? For one thing, automation tends to be thought of almost exclusively in terms of computerization, and opportunities to harness the computer profitably have been scarce. For another, those opportunities which have been seized have presented much tougher design problems than anticipated. Managers have suffered the embarrassment of announcing that a new system would be installed in four months' time with the actual event taking place months, sometimes years, later. Such delays have helped neither the managers' credibility nor the employees' nerves.

The job security provided by the Guild agreement is much more limited than that provided by the composing room. Whereas the latter covers every ITU member, the Guild agreement protects only three classes of employees: those directly affected by technological change or by subcontracting of work, and those having 10 or more years of continuous service with The Times. Regarding the first category it says:

> No full-time employee who has completed his trial period . . . and no part-time employee with at least a year's service shall be dismissed or suffer any reduction in classification as a result of the introduction of automated processes, computer

equipment, new or improved mechanization or improved methods.

The employee is also permanently exempt from layoffs due to reduction in force, whether in his own department or one where he is subsequently assigned.

Ten-year employees enjoy the same security as those directly affected by subcontracting or by technological change (referred to as "automatees" or "DP's"). Protected employees are not immune from dismissal for misdeed, of course. All other employees are subject to layoffs due to reductions in force, of which The Times has had several in recent years.

By and large, automatees accept the good faith of the job security promised by the agreement. A few act as though they could not even be dismissed for cause. But fear remains that if The Times' economic health does not improve, management will find ways of ousting protected employees, agreement or not.

Union Shop

The agreement provides union security in the form of a union or agency shop. All employees must either be union members or, in the case of a very few top editorial jobs, pay the equivalent of dues. Automation has not impaired the security of the union except insofar as doubts have been raised by the ITU/Guild jurisdictional disputes previously mentioned.

Whenever The Times plans to make a technological change that may cause displacements or subcontract work, it must notify the Guild in writing four months ahead of the proposed operative date. The notice must contain (1) the nature and purpose of the change, (2) a list of the job classifications which may be affected, (3) the names and seniority ratings of all employees in those classifications, and (4) the number and names of all employees who "may be directly affected thereby." Reasonable as it seems, this requirement has plagued management, because unforeseen technical hitches have disrupted timetables again and again.

Two months after notice is given, The Times must offer all employees on the list an opportunity to terminate and receive severance pay. The maximum number of terminations must not exceed the number of employees directly affected by the change. If too many volunteer, seniority in the classification determines the outcome. If too few volunteer, The Times must offer transfers to the remainder, but not until the four months of notice have expired.

The agreement lays down detailed transferring procedures which both sides have meticulously followed. Transfers must be "to comparable jobs that are within [the automatees'] ability to perform in their departments or any other department." "Comparable" has been interpreted to mean of similar status or respectability, as well as similar salary and conditions. Nevertheless, long-service employees who have worked their way up after starting in menial jobs live in dread of having to settle for work as guards or cafeteria hands.

If a transferred employee lacks the skills needed for the job, The Times must provide training (up to eight months) before deciding that he/she cannot perform. The agreement gives three choices to those who fail on the new job: severance, early retirement (where applicable), or transfer with no reduction in classification to a Times-designated job within the employee's ability. Should the employee fail a second time, the agreement allows management to dismiss, subject to arbitration, but this provision has never been invoked.

The transfer of an automatee to a different department cannot serve as cause for laying off existing members of that department. The transferee is also insured against layoff due to automation or reduction-in-staff in the new department.

Transfer Provisions Hit Snag

Some 125 automatees--120 full-timers and 5 part-timers--have passed through the transfer procedure. Neither the Guild nor The Times intended that employees should sit around and draw pay, but they did not foresee, either, that attrition might fall off and render the transfer provisions unworkable.

Moreover, of the 175 employees displaced since 1965, fewer than 50 have taken severance. About half of the volunteers were part-time. This scanty response to the offer of severance has been the greatest single disappointment to both sides. When the agreement was adopted in 1965, New York's job market was hyperactive. With white-collar workers at a premium and turnover high, the bargainers assumed that attrition would take care of any foreseeable number of displacements. Then in 1970 came the city's economic recession, and the job market dried up. With no outside jobs to go to, Guild members at The Times have sat tight. While a lucky few DP's have been upgraded and many have moved laterally without fuss, a substantial number have been forced, because of the recession-caused lack of suitable openings, to take jobs below their previous classifications. There they hang on, red-circled, waiting for something better to turn up, stomaching this distasteful experience because they cannot afford to quit. (On the other hand, some employees have enjoyed, and have asked for, less responsible jobs so long as their salaries were maintained.) They would bear it more stoically if they believed the future held promise of relief. But they foresee that automation will invade one department after another, scything away jobs. And they fear that any that automation does not get, economic staff-reductions will. To add further dismay, transferees have lowest seniority in the new department, so will be first to be displaced. They are also the least eligible to apply for any better job in that department.

Transfers are beset with other difficulties, too. The sheer diversity of classifications is a hindrance, especially in a union which boasts of representing everyone "from porter to reporter," and whose members' educational, skill, and personal requirements vary tremendously.

A tense situation can be created when a DP whose qualifications are less than his seniority is transferred to a new department. Reportedly, the supervisor must make do with an "interloper" who sometimes cannot really fill the bill, and other employees are resentful because the DP has taken a position they had eyed for themselves. Fortunately, such cases have been rare.

Some Unprepared for Change

Another problem has arisen because some skilled pre-automation jobs were highly repetitive and thus tended to encourage passivity. Years of such an environment do not prepare people for change and when it comes many feel baffled and hurt and are unable to summon the initiative for a different sort of job.

Part-timers have an even more difficult time. Most work part-time because of their personal situation (age, retirement, family) which allows them to do only certain kinds of work and at certain times of day. If their jobs are altered by automation and they need to be transferred, chances of finding a second job to match their needs are slim.

Retraining has been more successful for those who get new jobs in their original departments than for the DPs. For the most part, training in original departments has been on-the-job. The pattern has been to hire temporary workers experienced in the new jobs for six months or so while the regulars train. When the temporaries leave, Times employees take over again.

DP retraining has been variable. Some people have come to new jobs insufficiently prepared; in part because they were trained for jobs they did not really want, and in part because so much reliance is placed on learning after transfer. Lack of typing and shorthand skills, which The Times might have remedied by retraining, also barred DPs from transferring to jobs more desirable than those they finally settled for.

HOW USEFUL IS AN ATTRITION CLAUSE?

The New York Times' experiences with automation have been described from the standpoint of the question, How useful is an attrition clause? By addressing the five more detailed questions which underlie the initial query, an answer may be found.

1. Does an attrition clause end employees' fear of working themselves out of a job?

The answer for Times protected employees is a clear Yes. It must be borne in mind that protected employees are guaranteed against not only technological change but also reductions in staff for any reasons save the closing of the paper. Whether a guarantee limited to technological change would have been equally effective is open to doubt. In any event, neither union was prepared to take less.

As for nonprotected employees, the Guild's clause has contributed to their insecurity, but this is mainly due to the economic recession, past overmanning, and the absence of manpower planning.

2. In order to be effective, must an attrition clause also guarantee maintenance of earnings, benefits, and seniority?

All the evidence suggests that anything less would not have been regarded as job security. Again, neither union would have accepted any other arrangement.

3. a. When job insecurity is removed, does resistance to productivity improvement disappear?

The Times experience seems to indicate that it does. From the time the agreements were ratified, the ITU, the Guild, or their members have not done anything either overtly or covertly to impede technological change. Technical problems, in designing and debugging systems, and in procuring, modifying, operating, and maintaining equipment, have given trouble. But none of the impediments resulted from willful resistance, and employees have done what was asked of them.

b. When job insecurity is removed, do employees cooperate in increasing productivity?

If cooperation means passive compliance with management requests, the answer is affirmative; if it means contributing more than management has a contractual right to demand, then the answer is, "Yes, provided that...." *The Times* experience suggests that employees cooperate actively when certain additional conditions are present:

- Employees are kept informed of changes when they are being planned and before they are implemented.
- Management makes a visible effort to deal with the personal problems caused by the change.
- Managers ask for active cooperation; and employees understand what is asked of them, consider it reasonable, and have the opportunity to respond.
- Cooperation is reinforced by management action, not necessarily by promotion or money, but by broadened responsibility, public recognition, or the adoption of employee suggestions.

4. Under what conditions does a union oppose an attrition clause as a threat to the institutional survival of the union?

The Times' experience does not offer a direct answer, since both ITU and the Guild demanded rather than opposed attrition clauses. It is reasonable to suppose that ITU's pre-1974 rejection of automation reflected the fear that higher productivity would reduce the number of jobs and thereby reduce membership. Yet when it became apparent that automation was the only hope for preserving even fewer jobs, Local 6 altered course by 180 degrees. For its part, the Guild has always felt confident that automation could make only slight inroads into its membership, so survival has not been an issue. Not all Guild members see it that way.

5. Do the benefits of an attrition clause outweigh the costs?

In the Guild areas, information on benefits and costs is so elusive that a useful answer cannot be formulated.

In the composing room, managers, union leaders, and employees believe that benefits will outweigh the costs. The facts support their belief.

Employees Have Gained Job Security

On the credit side, employees have gained an enviable degree of job security along with respectable monetary improvements. They have received training for new jobs and, in some cases, an opportunity to turn over a new leaf. Some new jobs are more interesting than the old ones. Printers who have left The Times have done so voluntarily, under attractive financial terms. A more cooperative spirit is said to prevail than in the past. Working conditions are markedly better. Employees have less reason to fear that The Times may cease publishing in New York City, or that it may be tempted to go nonunion. On the debit side, some older employees would have been happier not to have to learn new jobs. The skill content of, and therefore the pride in, some jobs has been lowered.

A number of supervisors have returned to the ranks. What may happen when significant numbers of printers become redundant is still uncertain but not yet threatening. On balance, it seems to be a good trade.

For the union the deal provides benefits with relatively few costs. Membership will diminish, but far less than if the agreement had not been made. The future may be austere, but it is secure; and there seems to be a basis for an eventual resurgence of membership.

Company Benefits Difficult to Calculate

From the company's standpoint, the calculation of benefits and costs is highly speculative, and more so for benefits than for costs. Much depends on unpredictables, such as the course of attrition, the progress of The Times' research and development programs, the time required to get new systems and equipment into full operation, interactions between composing room and editorial/business departments, and general economic conditions.

The difficulties appear as soon as an attempt is made to project the course of attrition. When the agreement came into effect, the average age of employees in the composing room was 57. Attrition, most of which was the result of deaths, illnesses, and voluntary quits, ran at a rate of 36 a year. The Times had a reputation for not firing an employee unless he was repeatedly caught drunk on duty. The department has never compelled people to retire; printers work on into their 70s.

The 106 employees who took the termination bonus altered the attrition statistics significantly. The average age was brought down to 53 years, which meant that fewer people would retire in each of the next four years; and department manpower was reduced by one-eighth, which meant that the average number of yearly departures would be bound to be reduced by a similar proportion. The economic recession has further reduced the number of voluntary quits. Attrition in 1975 fell to 30, and the number may be expected to diminish every year.

The composing room's need for manpower, on the other hand, may take a different course. Among the craftsmen and union officials who were interviewed, the censensus was that when automation of the department has been substantially completed, manpower will stabilize at about half the current level. Managers' opinions, although more guarded, did not conflict with this estimate. The date of stabilization was placed at about 1980.

If attrition proceeds even at the optimistic rate of 30 a year, it will be 1987 or 1988 before the number of printers reaches the stabilization level. This means that for at least seven or eight years there may be an uncomfortable surplus of manpower.

Problems in Manpower Needs

But the composing room's manpower needs are unlikely to run down at such an even pace. In fact, for the next few years, they may not go down at all, for the following reasons:

- Retraining will continue to occupy many man-hours, on and off the job.

- Debugging of computers, systems, and the complicated new electronic gear will continue as automation spreads through the department. A reserve of manpower is needed to cope with the effects of breakdowns.

- Manpower needs fluctuate widely from day to day, reflecting advertising volumes. The Wednesday-Saturday peaks rise two or three times as high as the Sunday-Tuesday valleys. Although automation may cut the number of man-hours needed per week, it will have much less effect on the number of people on the payroll until this problem is solved.

When the need for manpower drops, it may drop rather suddenly. Assume that the department's manpower needs fall to the alleged stabilization level of 350 by the year 1980. If attrition continues at 30 a year, the composing room will have about 550 guaranteed employees in 1980. What is to become of the extra 200?

Both sides agree that keeping obviously redundant employees on the premises, Japanese-style, is an unacceptable solution. Since the average age in 1980 will be 57 or less, employees incline to the view that early retirement will be the most practical alternative, and they foresee a new termination bonus of well over $2,500. Word has gotten round that Hearst papers on the west coast have paid up
50 to $5,000.

The other alternative is transfer. The agreement allows management to transfer guaranteed employees within or beyond the department, so long as the job involves work which the transferee is competent to do, or for which he can be trained. However, there are conditions: (1) the employee must consent; (2) the job must be a regular situation; (3) the employee must receive wages and benefits as good as those to which he would be entitled under the agreement; (4) the transferee has the right to return to the composing room at any time; and (5) if the new job is under another union's jurisdiction, The Times will pay the transferee's dues to that union.

Thus far only four guaranteed employees have gone to jobs outside the department. These were retrained as programmers and now work in the computer department, alongside (and instructed by) Guild members but still under ITU jurisdiction.

In three cases union jurisdiction over jobs created by automation has been contested between ITU and the Guild. The National Labor Relations Board has twice upheld management's view that the jobs belonged to the composing room, and the third case is pending.

However, these transfers barely scratch the surface. While occasionally suggestions are heard that surplus employees could be transferred to subsidiaries of the company, or that The Times should diversify into new businesses in order to create job opportunities, few people believe it is practicable to absorb 200 employees from the composing room. Moreover, all of management's attention is presently directed toward winning the battle for technological change, and it is hard to do anything about manpower planning except acknowledge the need. But the example of the Guild areas suggests that delay is dangerous.

Costs Estimated

The principal costs to The Times attendant on the agreement are the annual wage/benefit increases, the termination incentive bonus, the paid productivity leave, retraining programs, investments in systems and equipment, and the wages/benefits of redundant employees. Of these, the termination bonus and productivity leaves are the most readily calculable.

The costs of annual wage/benefit increases and of keeping redundant employees on the payroll in future years will depend on variables discussed before--attrition and the rundown of manning requirements. Different combinations of these variables can be tabulated and estimated as to (1) probability and (2) cost.

Hardest of all to calculate are the costs of hardware, software, and retraining. Not only is the progress of research and development unpredictable, but management's plans for technological change are still evolving.

On the credit side for The Times, certain benefits have already accrued:

- Manpower has been reduced by 145 -- from 830 to 685.

- Concurrently, overtime has decreased about 1,500 man-hours a week, and costly errors in classified advertising have been cut in half.

Additional gains are expected to accrue from better page design and from editors having the opportunity to revise stories right down to production time.

The source of the largest potential benefits for The Times is the further reduction of manpower, but here again the actual numbers will depend on attrition and the rundown of manning needs.

On the whole, there seems to be no reason to challenge management's belief that The Times stands to benefit as much as will its employees over the life of the contract.

EPILOGUE

The Times's experience has three prominent characteristics in common with other widely known cases of productivity-security agreements:

1. Productivity has been equated, for the most part, with manpower reduction.
2. Technological change has been equated with new machinery and computer systems.

3. The agreement has been conceived as a means of enabling a crash program to be carried out.

It would be unfortunate if the inference were drawn that these characteristics are either necessary or desirable, for to do so would be to rule out some of the most attractive opportunities for productivity-security agreements.

1. In many cases it may be of secondary importance, or even counterproductive, to attempt a sizable reduction of the work force. The touchstone of productivity is how much value the work force produces in relation to its cost. Increased volume, better quality, or more reliable deliveries may change the ratio more than a manpower reduction.

2. There are many ways to increase productivity with little or no change of machinery or computer systems; e. g., work flow, information flow, procedures, supervision are obvious factors. Less obvious but often more important are bold and sharply defined objectives, thoughtful planning, openness to unconventional ideas, and management/employee determination to succeed.

3. Frequently a crash program signifies that change has been put off too long. The discovery that technological change cannot be avoided, that it can only be postponed, is made by one company after another, one country after another. The longer it is postponed, the more drastic the measures that management is forced to take and the more distressing the impact on employees and unions. If an attrition

clause can dissolve resistance to a crash program, why can it not also do the same for a more gradual program?

Take the manpower reduction in The Times' composing room. If all goes as expected, the crash program will enable the department to reach the consensus level of 350 in 1980.

While not denigrating the magnitude of the composing room's achievement, suppose that The Times and ITU had adopted their Special Agreement on Productivity and Security back in 1960, when The Times first began to press for automation. Suppose also that the department's manpower in 1960 was 830, the same as in 1974, a not-unreasonable assumption since the basis of manning was roughly the same at both times. Further, suppose that in 1960 the composing room had set a long-range objective of raising productivity every year by enough to enable manpower to decrease steadily to 350 by 1980.

An average productivity increase of 4.25 percent a year would have been required. The corresponding staff reduction would have started at 35 a year (less than the actual attrition rate for 1974) and diminished as manpower was reduced. Normal attrition could have accounted for the entire 1960-80 reduction, without strain or pain.

Could a year-in-year-out 4.25 percent productivity increase have been achieved without the wholesale technological changes now being introduced? The answer is inevitably speculative. And yet, bearing in mind the rapid progress reported during the 1960s by newspaper composing rooms elsewhere, which bargained successfully with other ITU locals for freedom from manning restrictions and the right to adopt new technology at a reasonable pace, the feasibility of a 4.25 percent rate of productivity growth cannot be dismissed out of hand.

Nor is it unreasonable to believe that if The Times, the other New York City newspapers, and Local 6 had come to terms in 1960, the papers could have competed more effectively against the other media and preserved many more jobs for ITU members.

Just as geologists have come to believe that a series of small tremors can prevent stresses from mounting to a major earthquake, so it may be that technological shock can best be prevented through a sustained drive, aided by an attrition clause, to keep productivity rising at the highest rate practical. If a company's rate of attrition is too slow to support such a policy, perhaps a multicompany or areawide program of manpower-exchange could be worked out. In any case, the possibilities of productivity-security agreements are still largely unexplored.

CRAFT UNIFICATION THROUGH LABOR-MANAGEMENT COOPERATION AT ALCOA, TENNESSEE

In Alcoa, Tennessee, not far from Knoxville, the Aluminum Company of America operates a major aluminum smelting and rolling facility. Three huge plants form the heart of the complex, which is managed by the company's Tennessee Operations (T/O) division.

South Plant, built in 1914, houses the smelters. West Plant, dating from 1921, is a rolling mill for thin sheet and foils. North Plant was constructed in 1940 to roll aluminum sheet for military aircraft. Originally, the plants drew their power from dams erected by ALCOA long before TVA came into being, but now they draw from TVA also.

In late 1973, before craft-unification, the fabricating plants had a capacity of about 45 million pounds of product per month. South Plant was capable of smelting about 46 million pounds of metal per month.

Local people with rural, conservative traditions and strong family and neighborhood ties predominate in the work force. Hourly employees in 1973 totaled over 4,400. Maintenance/construction people (craftsmen and others) accounted for 1,265, almost 30 percent.

The closest industrial unit of comparable scale is the atomic energy establishment at Oak Ridge, some 20 miles west.

Craftsmen as well as production workers are represented by United Steelworkers of America Local 309. A master contract between ALCOA and USWA covers 10 aluminum processing installations; the only rolling mill in this group is at T/O. All other ALCOA rolling mills have contracts with Aluminum Workers International Union, an old AFL affiliate. USWA broke into the aluminum industry through merger with the original CIO-sponsored aluminum union.

For a dozen years T/O had been coasting downhill. Old by aluminum industry standards, and set in its ways, it had become the highest cost unit in the company. Maintenance costs in particular were exorbitant. The company therefore put less and less of its capital investment into T/O, which accelerated the decline. Historically, the industry pattern has been to let old mills die and then replace them with up-to-date mills in more advantageous locations. Several ALCOA rolling mills at which USWA had bargaining rights had already suffered this fate. In the late 1960s the company warned the local management that T/O faced disaster unless something was done to make it more cost-competitive.

Several attempts to reorganize maintenance/construction followed, but none seemed to have the desired results. Meanwhile, ALCOA rolling mills organized by AWIU had adopted craft-unification - - the partial or total removal of jurisdictional lines - - as a means of reducing costs. The company continued to press T/O for improvement.

In the summer of 1972 the local engineering/maintenance managers, encouraged by T/O's new chief of operations, formulated outline proposals for craft-unification and presented them to the local union. The company chose to negotiate even though under the contract it could have introduced the change unilaterally and established its legitimacy by defending against union grievances. But the final step of the grievance procedure is arbitration, and should the arbitrator have ruled in favor of the union, management would have abdicated the right of deciding an important substantive issue. Had the arbitrator ruled for the company, management could have expected protracted employee resistance and perhaps a strike, legal or not. The decision to negotiate was prudent.

Local 309 sought guidance from the international, which turned to ALCOA's top managers in Pittsburgh. Figures to illuminate the threat to T/O and its work force were produced but while the international officers were impressed by these, the local union and rank-and-file remained incredulous. The discussions did lead to the formation of a dozen or so joint management/union committees at T/O, and these investigated a variety of areas, including maintenance, for possible improvement. All the committees petered out save one: the Craft Unification Committee.

The unification committee, whose key role is described below, wrestled with the problems of planning and negotiating this radical change until a majority of the affected craftsmen ratified their work in September 1973.

THE AGREEMENT

The agreement which came into effect on October 28, 1973 covered 701 craftsmen and 74 apprentices who worked on T/O's mechanical repair, maintenance, construction, and erection, in all three plants, whether in shops or in the field. (About 300 nonmechanical craftsmen, such as electricians and truck repairmen, were not involved.) The agreement is local within the master ALCOA/USWA contract.

The mechanical craftsmen had been organized along traditional lines in a large number of discrete classifications: pipefitters, millwrights, etc. Some worked in shops, some in the field; others were based in the shops but spent much of their time on loan to the field. Employees say that T/O had more classifications than other ALCOA plants and upheld jurisdictional lines more "religiously." A member of one classification might sometimes help a member of another, but not if management asked him to.

Ostensibly designed to protect jobs, the system in fact generated insecurity and conflict. T/O was plagued with incessant jurisdictional disputes among classifications, among plants, and between shop and field.

Layoff and recall of mechanical craftsmen, for instance, were controlled by four disparate seniority lists: one for South Plant mechanics, both shop and field; one for West Plant field mechanics (and some unrelated groups); one for North Plant field mechanics (and some unrelated groups); and one for shop mechanics of both North and West plants. If a craftsman were laid off from one list, he could not fill a vacancy in any of the others, even if the vacancy had to be filled by someone off the street.

A seniority unit agreement in 1970 brought order into the arrangements. It reduced the four lists to two: one comprised all field classifications for all three plants; the other, all shop classifications. But the lists remained airtight compartments.

Organization along strict classification lines wasted an inordinate number of man-hours, not only because of jurisdictional disputes but because work flow was interrupted. The great bulk of mechanical work at T/O requires input from craftsmen of more than one classification. In a typical assignment, classification A (say, a pipefitter) would be able to do most of the job, but at some point would need a brief assist from a member of classification B (say, a welder). To obtain that help, A had to seek out classification B's foreman, ask for assistance, return to the job site, wait for B to arrive, and sit on his haunches while B did his stint. A would contribute nothing of value between the time he left to fetch B and the time when B finished. B contributed nothing of value during his trips to and from the job site. Both A and B suffered the annoyance of having their work interrupted. The irony is that in most cases the piece of work performed by B was something that A, with little additional training, could have done himself.

Unification Merges Jurisdictions

The craft-unification proposal was based on ALCOA engineers' findings that at T/O only a a relatively small part of a craftsman's work really demands special skills, and that by far the greater part can be done by a member of any other craft union with average skill and a modicum of training. However, each classification fights bitterly to hold on to the low-skilled part, as a matter of group self-preservation. Unification means partly or entirely deleting the jurisdictional lines among classifications and merging them, so that all members are permitted and expected to do some work that previously was confined to any of them. The practical problem is to decide which parts of which classifications to combine.

In contract construction, an alternative source of jobs for maintenance craftsmen, there is little demand for multiskilled mechanics and the single craftsman is preferred.

Prior to unification, work at T/O had been apportioned between shops and field on the basis of custom, practice, and frequent jurisdictional disputes. After, the lines were drawn to encompass shop skills, on the one hand, and field skills, on the other. This served two purposes. The agreement (1) confirmed that management alone would decide where work was to be carried out, and (2) enabled management to reduce to a minimum the movement of craftsmen between shop and field.

Before unification, shop work had been the province of machinists, layout men (sheet metal workers), welders, blacksmiths, and roll grinders. The agreement combined them into the single classification, Machinist Specialist.

Before unification, the following classifications were permanently assigned to the field: mill mechanics (millwrights), pipefitters, hydraulic specialists, utility mechanics, and Albron (powder & pigment mill) mechanics. When, as often happened, the field required welders, layout men, or scale repairmen, they had to be procured on an hourly or daily loan from the shops, where they were permanently assigned and to which they reported at the start and finish of each shift. The agreement ended this awkward practice: it permanently transferred about 40 welders and scale repairmen from shops to field and merged them with the other permanent field craftsmen into the single classification of Mechanical Craft Specialist. Layout men remained in the shops; the work they had done in the field, which had ignited many jurisdictional disputes, was absorbed by the Mechanical Craft Specialist.

The agreement also broadened the range of work in both shop and field by providing that any craftsman would, when required by the job, operate auto trucks, jeeps and scooters; operate an overhead crane when a craneman is not regularly assigned; rig, load, unload, secure equipment; travel between plants by vehicle for purposes of loading or unloading; and burn and weld.

An exception was made in South Plant shop, where the old classification of Welder was retained for the repetitive task of stub (furnace electrode) repair. In the event of a reduction in forces, Welder vacancies would be filled first by people cut back from Mechanical Craft Specialist.

Cross-Training Provided

Unification assumes that each craftsman will learn enough about other crafts so that he can do any work that is not highly specialized. The agreement provided that such learning, called "cross-training," should be given both on and off the job. All members of the new classifications would receive on-the-job cross-training. Classroom training, however, would be given only to volunteers, in order to relieve the anxiety of craftsmen fearful of showing up poorly. The union argued for voluntarism, on the ground that when the incumbents were originally hired, there was no understanding that they would have to take further training.

Apprentices would receive training in all skills applicable to an assigned unified classification.

These simple-sounding changes struck at the root of job security. The craftsmen were sure that eliminating jurisdictional lines would save so many man-hours that a massive loss of jobs would be inevitable. Management tried to reassure them with two arguments: (1) True job security could best be gained by ensuring the continuation and expansion of T/O, and this could best be done through higher productivity. (2) Greater productivity need not mean fewer people for a set output of work; rather, it can also mean keeping the work force intact (less attrition) to maintain facilities for expanded output. Events so far have supported management's reasoning, but at the time the craftsmen were not persuaded.

Against the expected impact of craft-unification, the master contract provided four principal measures of job security. (1) In case of a reduction in working forces, seniority governs the order of demotion or layoff. A laidoff employee takes preference over new hires for vacancies in other departments of the bargaining unit, or in other plants covered by the contract; he has a right to moving expenses if he goes to another plant; and if he has at least a year's seniority, he can transfer to another department and bump. He retains seniority relative to insurance, pension, and Supplementary Unemployment Benefit (SUB) rights. (2) An employee displaced because of a major improvement, change of process, or elimination of an operating unit, has a right to transfer and bump. (3) A laidoff employee with two years of departmental seniority has a right to 52 weekly benefits under the SUB Plan. Weekly benefit is equal to 28 hours of average straight time, less State unemployment benefit, to a maximum of $100 or $135, plus benefits for dependents. (4) An employee with 30 years of service can retire on full pension, regardless of age. Employees aged 62 and above can retire with much less service, on full pension.

Protection Beyond Master Contract

The craftsmen concluded that the master contract did not give them enough protection in the case of unification; so the special agreement went further. (1) The company promised in writing that for one year after the agreement was signed no incumbent of the merged classifications would be laid off in any reduction of force that might occur as a direct result of unification. (2) According to employees, the company also promised orally that any reduction of force occurring after the first year as a direct result of unification would be managed by attrition, not layoffs. (3) The unification agreement may be modified or terminated by mutual agreement within three years of its signing; thereafter either party may cancel by giving the other a year's written notice; in the event of cancellation, the parties revert to status quo ante.

(4) Craftsmen were also worried about layoffs not due to reductions in force, and not occurring as a direct result of unification. What if a craftsman was unable, because of age, to learn new skills? The company gave its word that older craftsmen would not be penalized for failing to do well at other crafts, provided they had made a sincere effort to learn. (5) And what if a reduction in force occurred as a result of recession? Might a more senior Mechanical Craft Specialist be laid off while a less senior Machinist Specialist remained on the payroll, because the latter are harder to replace? The

agreement resolved this issue by putting all the merged classifications of shops and field into a single seniority list for layoff and recall.

(6) Lastly, the agreement gave shop people who were transferred to the field the right to return to their home base at the end of the first year. After that manpower adjustments between shop and field would be based on company seniority.

In addition to allaying fears of job insecurity, the agreement offered craftsmen three positive inducements. First was a big jump in job grading. Most had been at grades 20 or 22. The agreement raised all of them (except stub welders, who continued at their old rate) to grade 25, which translated into wage rises of $800 to $1,000 per year per man. Since retirement benefits are based on the 2 highest years of earnings of the 10 years preceding retirement, older employees especially stood to gain.

Second, the single seniority unit for layoff and recall answered a long-felt need, since many craftsmen had experienced--some more than once--being laid off while a less senior craftsman of a not-too-dissimilar trade was recalled.

Third, the agreement granted a $39 tool allowance for equipment for the additional work.

A few managers now believe these inducements were strong enough to have won ratification without the no-layoff promise, but craftsmen insist that job security was the prime concern.

OUTCOME OF THE AGREEMENT

The unification agreement achieved most of the objectives of both parties. Productivity has risen, maintenance costs have gone down, individual earnings have increased, and job security has been strengthened.

Benefits to the company have grown slowly but surely as new skills have spread among craftsmen and managers. Thus, as of May 1976:

- Jurisdictional disputes among craftsmen in the merged classifications have practically ceased; this includes disputes between shop and field, among trades, and among plants.
- Man-hours wasted while craftsmen procured and waited for others to do nonspecialized jobs have been reduced by about 80 percent; yet, even after cross-training, most craftsmen spend most of their time doing work that falls within their old craft.
- Jobs are now done with fewer man-hours and within a shorter elapsed time; hence, direct maintenance costs are lower, production downtime for mechanical maintenance is shortened, and more maintenance work gets done during a given period of downtime.

- About 30 percent more mechanical maintenance is being accomplished, while the work force is marginally smaller than before.

- As a result of broadened skills, the work force maintains plant and equipment of higher technological content than they could have done before.

- Running-maintenance now requires fewer craftsmen; thus more men and skills are released to concentrate on major jobs during weekly down-days and quarterly shut-downs.

- It is easier to plan large maintenance jobs because now so many field men can weld; the shops also benefit by not having to dispatch their welders into the field.

- Overtime work is easier to allocate.

- Construction/erection work is more efficiently done because a permanent team can be kept on a job and specialists do not have to move in and out to do odd pieces of work.

- The number of foremen went down substantially, without layoffs. With their average age in the 50s, many retired; some returned to the ranks as craftsmen. In recent months, as business has picked up, the number has returned to the 1973 level.

New Capital Investment Flow

Two weeks after ratification the company announced that T/O would soon enjoy a flow of new capital investment; by May 1976 some $30 million had been committed and large-scale construction was under way. The capacity of the rolling mills has risen from 46 million tons per month to 55 million. More modern, technologically superior rolling facilities have been installed. A new scrap reclamation unit helps to assure the supply of raw metal.

Within a month after the agreement took effect, all the merged craftsmen went up to job grade 25. Thus they were earning higher wages long before the cross-training began to bear fruit. Some employees claim that the agreement was a losing proposition for the company for the first year or two.

The company honored its promise not to lay off incumbent craftsmen, a safe commitment despite depressed business conditions in 1974-75, since so many craftsmen were approaching retirement that a sizable reduction could have been managed by attrition alone. As it happened, none was needed. Although T/O laid off over 1,300 workers during 1974-75, only 112 mechanical tradesmen were among them; these were apprentices or younger people, none of whom had been incumbents of the merged groups when the special agreement was made. All have since been recalled, although 900 production workers remained on layoff as of May 1976. Moreover, the company has signed up additional apprentices to fill part of the gap caused by retiring craftsmen. In May 1976 the total number of apprentices and craftsmen in the affected classifications was 763, compared with 775 in September 1973.

The company also honored its commitment not to penalize older craftsmen who tried but failed to master the work of other crafts. In a few cases, employees feigned inability, and a few foremen displayed impatience; but nothing more serious occurred.

Of the 40 welders who were moved from shops to field, 8 volunteered for permanent transfer and 32 were transferred involuntarily. All of the latter were returned to their shops before the end of the agreement year, as new field welders were trained.

No Cut in Working Hours

The size of the craft work force has been maintained without any cut in working hours. Craftsmen continue to work 40-hour weeks, even though the master contract guarantees only 32 hours of work or pay.

Nevertheless, craftsmen indicate concern about future security. They suspect that before long the volume of construction/erection work will taper off, and that when it does the craft force will drop by about 30 percent. The majority view this as sad but unobjectionable--provided that the reduction occurs by attrition, and those who remain do not fall victim to a speed-up. (Thus far there have been no serious complaints of overwork.) On the other hand, some craftsmen argue that it would be morally wrong of T/O to reduce the number of jobs for any reason while unemployment is high, and that the Federal government should intervene to prevent it.

Another worry is that unification may be a harbinger of more drastic measures to improve productivity. Any move toward more contracting-out of construction/erection work, whether layoffs result or not, is opposed because the craftsmen view this work as demanding more "theory" and thus being more challenging than repair and maintenance. Contracting-out such work implies to them a lack of confidence in the company's own people. They also oppose recent efforts to have production workers do minor maintenance of their own machines because this, they say, narrows the scope of craft work still more and might lead to redundancies and a speed-up.

As so often happens in major work changes, foremen as well as hourly workers suffered insecurity. In this case, in addition to the legitimate worries about layoffs or demotions, they had the further anxiety of having to learn the same new skills as the craftsmen. Although management has assured the foremen that their job is to manage their men rather than exceed their skills, the older foremen, who achieved rank by virtue of manual rather than managerial ability, are uneasy.

Training Program Controversial

More controversy surrounds the training program than any other aspect of the change. T/O stands first in the State for spending on training; yet many craftsmen say the pace of cross-training is still too slow, and thus the full benefit of unification is not yet gained.

The shops of North and West Plants are said to carry on more on-the-job training than the field groups, for the reason that logistical problems are simpler in the shops. In the South Plant shop, however, pressure of work leaves so little time for training either craftsmen or foremen that unification is estimated to be a year behind the other two plants. South Plant craftsmen anticipate severe difficulties as a wave of retirements in the coming five years leaves them short of essential skills.

The company has adopted the policy of offering classroom training only to those with more than five years of service before retirement. Two-week courses in basic welding and other skills have been oversubscribed, and 10-week courses have been fully booked. The main obstacle has been managers who either deter their people from attending, or, at the other extreme, urge them too strongly to go.

Many Craftsmen Skeptical

Many craftsmen are persuaded that because the program is aimed at preparing people to be jacks-of-all-trades, it will leave them masters of none. At present foremen can usually find specialists to do special jobs, although some employees allege that even now a foreman occasionally has to do high-skilled work himself, taking along a craftsman as cover. But when the old-timers go, *who will be left to practice* the higher skills (such as technical welding)? Who will be able to diagnose the tough problems? Will management exploit the situation by using it as an excuse to contract-out the most interesting work? Managers--and some craftsmen--reply that these fears are unwarranted. Long experience does not always mean high skills. Indeed, many young craftsmen and apprentices have already demonstrated a talent for the most difficult jobs.

Apprentices, it is generally agreed, are receiving excellent training in the full range of skills. They will escape the embarrassment, now suffered by old-timers, of fumbling at tasks outside their craft. This is not true of all old-timers, however; many have enjoyed and made good use of cross-training. (These tend to be people who run farms or small businesses on the side, in which welding skills are valuable.)

Union members of the craft unification committee helped management set up the training program and select instructors (usually craftsmen). To their suggestions have been added those of craftsmen who have attended the courses, so that the quality of the program has steadily improved.

THE UNIFICATION COMMITTEE

74 The success of the unification agreement is

due in large measure to the work of the joint committee that devised, negotiated, and sold it.

As originally constituted in September 1972, the committee was made up of four members from each side. Management members came from the maintenance organization. The union was represented by two craftsmen from North Plant and two from West. South Plant refused to take part--some say because of a history of unhappy management-labor relations; others say because the average seniority of craftsmen was lower than in the other plants and would expose them to danger in a combined seniority list; still others blame the old rivalry between smelting and rolling workers.

Subsequently union membership of the committee rose to 10 or 12, but then dwindled again to 4. Management stayed at four, but with some substitutions. T/O's head of engineering served as an occasional member, _ex officio_, to good effect.

The union members were selected by the president of the local and by the international's district representative. They had to meet two criteria: (1) they were not current officers of the union, and (2) they were recognized as men capable of formulating constructive programs, rather than as agitators.

As far as the local was concerned, creation of the committee was a tactical manoeuver. When the local president's appointees asked what they should discuss with management, he replied, "Anything but unification."

For a few weeks, therefore, the committee got nowhere. Eventually the chairman, a manager, admonished the craftsmen that if the committee could not come to terms locally, the agreement would be written in Pittsburgh, where both USWA and ALCOA are headquartered. The union team made a trip to Pittsburgh to find out for themselves, and learned that the company was not bluffing. They then began a genuine consideration of craft unification. A substantive breakthrough came when the union proposed that if crafts were combined, seniority lists must be combined. At first management resisted because craftsmen might be lost from the more vital skills and because field men cannot readily be substituted for shop men; but in the end they yielded. From that point the committee moved on without let-up.

Committee Sold on Unification

The more the committee debated the concept of unification, the more attractive they found it. The old system was not only inefficient and uneconomic for the company; it was insecure and frustrating for the men. Nor could they justify the multiplicity of seniority lists, perpetual jurisdictional disputes, and pointless interruptions of work.

On November 21, 1972, the committee issued a memorandum setting out broad lines for unification. The essentials stood the test of long debate and were incorporated in the formal agreement which emerged 10 months later.

After the basic plan had been drafted, the hardest part began. The union took a firm stand that all affected craftsmen must ratify any agreement, and therefore the agreement must be in writing, so clear and complete that management would be unable to find loopholes. During the 1960s, craftsmen said, new managers at T/O had ferreted out loopholes in existing agreements, to the disadvantage of the work force; this must not happen again. It took about 100 meetings, each a few hours long, to reach an agreement that satisfied them; one session might have dealt with no more than one, two, or three sentences.

The committee had not intended to keep its proceedings confidential, but since progress was so slow and details so complex, the union side was at a loss as to how to keep its constituents informed. This intensified the rank-and-file's suspicions of a sell-out, and loyal unionists on the committee were shocked to hear themselves called traitors.

By and large, craftsmen disbelieved management's warning about the future of T/O and saw no reason why a system which had served them for 30 years should suddenly be overturned. They wanted to preserve the established size of the work force, so that they, their relatives, and their neighbors would continue to find employment at ALCOA.

Committee Proposal Defeated

The committee struggled on in the face of abuse and finger-pointing, and reached agreement, on March 9, 1973, on a Memorandum of Understanding. However, when the proposal was submitted for ratification two weeks later, it was heavily defeated (299 for, 601 against).

Following a change of local union leadership in May, union and management met to analyze what had gone wrong. On August 30 the unification committee, with slightly different membership, set to work again revising the proposal. By September 6 the task was done. On September 14, 1973, the agreement was ratified by a vote of 354 to 317.

SELLING THE AGREEMENT

Management and union worked closely together in the campaign to ratify the first Memorandum of Understanding. They sent copies of the proposal to all affected employees, and the head of engineering (and other leaders) met with small groups to explain its contents. But many craftsmen, particularly in the shops, were apathetic; few turned out to vote.

Worse, there was active opposition. The Memorandum of Understanding threatened the job security of hundreds of employees who were only peripherally involved in the unification scheme; namely, yard laborers, operators of mobile construction equipment, operators of industrial trucks, steel workers, truck repairmen, and overhead crane operators. These demanded and obtained the right to vote on the proposal, and they voted heavily against.

Next, employee leaders at South Plant

fought the proposal, for reasons already noted, going so far as to stand at the union hall on voting day and urge people to cast NO votes. Many craftsmen opposed out of fear of mass layoffs. The proposal also became an issue in the local union election, when one presidential candidate, a pipefitter, attacked it.

Most of the objections raised before and after the first vote went onto the committee's agenda when it resumed in August 1973. As a result, all threats to peripheral groups were removed (making those groups ineligible to vote in the second round), legalistic phrases were excised, and harsh-sounding words were softened. Management made a number of concessions related to welding and stub-welding. The procedure for job-bidding between shop and field was simplified.

The selling effort in September was more intensive than that in March. After copies of the proposal had been distributed, T/O's top managers, accompanied by members of the committee, made the rounds of the plant. In small group meetings they explained the terms and answered all questions. This time, moreover, South Plant's leaders stayed neutral.

International Backs Proposal

A few days before the vote the international union's district representative sent the voters a personal letter recommending the proposal, and a senior USWA negotiator from Pittsburgh addressed a meeting at the local union hall to the same effect, but in more guarded terms. Both international representatives stressed that a second NO vote might spell disaster for T/O. Until then, many craftsmen still scoffed at the notion that the company would ever close down a plant embodying such a huge, longstanding investment. On previous occasions the company had threatened dire consequences (e.g., refusing to bring in a major new process unless employees acceded to a change in wage rates) and then backed down. Why believe it now? The letter and the speech may have shaken the doubters enough to swing the vote in favor.

Of crucial importance, this time only directly affected craftsmen were eligible to vote. The pros and cons that shaped their choice were as follows. Pro:

- T/O's future threatened by a NO vote.
- Major wage improvements, with impact on retirement benefits.
- Better seniority arrangements for layoff and recall.
- An end to frustrations caused by rigid jurisdictional lines.
- The tool allowance.
- The opportunity for additional training.

Con:

- Fear of mass layoffs.
- Fear of losing pride through clumsiness in handling jobs outside one's own craft.

- Fear of losing old skills through disuse.
- Fear of being shuttled between pieces of work.
- Fear of overloading.
- Fear of embarrassment in training.
- Fear of contracting-out.
- The fact that many older craftsmen would gain more from T/O's closing down than from its continuance.

The implementation of the agreement has confirmed all the pros and removed or diminished most of the cons.

EPILOGUE

Two aspects of the relationship between productivity improvement and job security stand out in the ALCOA case: (1) the use of an attrition clause; and (2) the need for job security measures in excess of those contained in the master contract.

1. In the special agreement the company granted a limited attrition clause, promising that no craftsman would be laid off as a direct result of unification. The master contract contains no attrition clauses: the company opposes them in principle, and the international's negotiators consider them impractical, except

perhaps for craftsmen. (A spokesman for the company states the company's policy thus: "Changes in jobs must occur from time to time if increases in productivity are to continue; and while effort is made to effect these changes without loss of jobs, sometimes ALCOA makes changes with loss of jobs.") Management deviated from principle because the age distribution made the promise risk-free. The international went along, presumably because only craftsmen were involved.

USWA negotiators question whether it is feasible, in practice, to prove that a layoff (or demotion) resulted directly from a productivity improvement rather than economic causes. Strictly speaking, the T/O case does not resolve the issue, since management honored its commitment. However, unification altered working practices so profoundly that any experienced craftsman would have little difficulty showing how many more man-hours would have been needed to do a job under the previous system than at present. Arguably, a similar demonstration could be made in less dramatic cases too.

2. In order to get employees to cooperate in craft unification, the company had to offer positive inducements as well as allay fears for job security. The medium was a special agreement. Even so, full acceptance was not readily forthcoming.

The master contract's job security provisions work well enough in regulating layoffs and demotions resulting from changes of economic conditions. No one seriously challenged the reduction of 1,300 jobs during the recession of 1974-75: such layoffs are regarded as temporary and due to causes outside the company's control.

But the master contract did not remove the fear of layoffs which might arise from craft unification, since these were seen as likely to be permanent and due to causes within the company's control. The closeness of the second ratification vote implies that almost half the craftsmen did not believe that T/O was in danger of being closed down. In other words, they saw craft unification as a device by which the company would benefit at their expense.

The special agreement was required to offset these concerns. This made sense because unification was a major productivity improvement -- major both in the number of people involved and the extent of change of working conditions.

But if productivity improvement is taken as a day-in, day-out objective, rather than an occasional dramatic advance, would the same procedure work? Would the parties devote the time and effort to make a special agreement in the absence of a demonstrable crisis which compels change? or when relatively few people are involved? or when changes of working practice are less drastic? The odds are strongly against it.

Further questions then arise. If a special agreement is impractical in such cases and the master contract alone applies, what are the chances that employees will cooperate in testing or implementing management-sponsored productivity improvements? or in helping management design productivity improvements? or in suggesting labor-saving changes?

PROVIDING FOR SECURITY WHEN INCENTIVE SYSTEMS CHANGE: HUNTINGTON ALLOYS, INC.

Incentive systems are probably the most commonly used device for raising productivity. By rewarding employees for producing more than the minumum acceptable, such systems stimulate effort and ingenuity, although, as is well known, traditional systems. have side effects which often negate much of the good that is accomplished.

When an incentive system has been in operation for a long time, employees grow accustomed to certain methods, rates of speed, levels of earning, and ways of dealing with one another and with their managers. The replacement of an old system by a new one disturbs these patterns for better or worse and thus affects employee security along with productivity.

In August 1972 Huntington Alloys, Inc. and Local 40 of the United Steelworkers of America (USWA) agreed to abandon an old individual incentive system and replace it with a companywide group incentive system of the Scanlon type. The concern here is not with the Scanlon plan as such (a topic adequately covered by other publications of the National Center for Productivity and Quality of Working Life), but with the issues of productivity and employee security that attended the change from one system to another.

BACKGROUND OF THE CHANGE

Huntington Alloys, Inc., a wholly owned subsidiary of INCO, Ltd. (formerly International Nickel Company of Canada, Ltd.) describes itself as "the largest company in the world devoted exclusively to the development, production, and sale of high-nickel alloys." The company originally dominated the nickel alloy industry in the U.S., and still retains a leading position in this now highly competitive field.

The firm manufactures some 60 different nickel alloys for use in conditions "where heat-resistance, corrosion-resistance, and strength are critical." According to the company, "the alloys are produced in 130 different forms and shapes including sheet, strip, tube, wire, rod, and plate. There are approximately 20,000 different combinations of alloys, forms, finishes, and tempers," in addition to "a broad line of companion welding products to fabricate the alloys."

The main plant at Huntington, West Virginia, has been in operation since 1922. It houses administration, laboratories, melting and fabricating mills, and a shipping center. At Burnaugh, Kentucky, 27 miles away, a new, small (but rapidly growing) mill provides additional melting and extruding facilities. Field sales offices are located in 15 cities around the country.

As of July 1976 the company's work force consisted of 1,929 hourly and 1,134 salaried employees, of whom 276 hourly and 69 salaried were at Burnaugh. The United Steelworkers of

America represents the hourly people at both sites: Local 40 at Huntington, Local 7153 at Burnaugh.

Engineered Standards Used

The incentive system which Huntington Alloys and Local 40 agreed to discard was based on the Bedaux 60-unit hourly norm, and was known as the Extra Compensation Plan (ECP). Engineered standards covered 90 percent of the hours worked by hourly employees (the other 10 percent were mainly training and downtime hours), but some allowed very high earnings while others were "capped."

A large staff of engineers and checkers kept the system up to date. The engineers restudied all standards on a regular schedule. When they found a standard that was tight, they loosened it at once. When they found a loose one, they tightened it at once, sometimes sharply. However, the impact was cushioned: provided he kept up his performance, the employee's incentive earnings declined only 3 percent per month until the revised level was reached.

If the union wished to contest a standard, it could raise the question at the next contract negotiation or file a grievance not subject to arbitration. Alternatively, the union's ECP committee, whose members were trained in the workings of the system, could make an independent study as a check against management's. In certain circumstances the union could bring in its own consultant, but this right was never exercised.

Standards played a part in adjusting the size of the work force to business volume; this follows a five-year cycle with an occasional sharp drop but an overall upward trend.

Layoffs of production workers were frequent, with an average layoff having affected about 5 percent of the hourly force; the most severe, which occurred rarely, affected about 10 percent. Maintenance workers fared better: much of their work continues to be necessary even when production declines. Moreover, each tradesman represents an investment of two to four years' training, which the company was understandably reluctant to lose to other employers.

Union Opposed Old System

The impetus to ditch the ECP came from the union. Hourly employees had complained long and bitterly about the system. They blamed it for infecting labor-management relations at Huntington, and claimed that it had the irremediable fault of pitting worker against worker. Included among their discontents (some of which the company attributed to misinformation) were:

- Incentive earnings averaged 15 percent of total pay, which was considered not bad, but the distribution bore no visible relation to individual effort or skill.

- About one-quarter of employees did very well out of the system; another quarter did moderately well; and the remaining half got little or nothing out of it. (Management, whose statistics show 45 percent earning the average or better, put the proportions as, respectively, 1/4: 1/2: 1/4.)

- Earnings on a given job varied widely from shift to shift, reportedly because workers on early shifts used, or hid for later use, the "gravy" --i.e., the materials easiest to work.

- By contrast with the erratic distribution among production workers, maintenance workers' ECP earnings were uniformly a little above average.

- Although most jobs were on standards, many products (mainly new ones) were not. (According to management, bonuses on new products were limited to 15 percent.)

- Employees on easy items, it was reported, would laze around for a couple of hours after making quota and try not to attract management's attention to loose standards.

- In some cases earnings depended on an employee reporting his output honestly; some reported their output twice, giving rise to grievances and interemployee quarrels.

- Employees often disregarded quality in order to increase volume and earnings. The burden then fell on those other employees who had to use this low quality output; e.g., furnace operators would be hampered in their work by poorly repaired ladles.

- Jekyll-and-Hyde behavior was common. Workers known to be "nice guys" away from the plant would turn utterly selfish on the job.
- Customer good will was endangered--and thus jobs jeopardized--because employees delayed working on orders that did not pay good bonuses.
- Apprentices and some laborers were outside the ECP altogether.
- ECP gave management license to act arbitrarily because (1) ECP grievances were not arbitrable, and (2) the union's ECP committee knew only what management had taught them.

From the company's viewpoint, ECP had the virtue of maintaining a high level of productivity, but it had some flaws too: (1) Employee performance on jobs with capped standards was considered unsatisfactory. (2) Employees resisted the introduction of new processes because incentives fell during the period of learning and standard-setting. (3) The tightening of loose standards usually provoked resentment. Even when the tightening was justified and earnings were cushioned, employees would sulk and go into "mourning." (4) No matter how fairly management tried to deal with employees, ECP sparked innumerable disputes and grievances, the brunt of which fell upon the industrial engineering department.

Organized opposition to the system began as early as 1957, when the union pressured management into renouncing the use of disciplinary measures against employees for failure to meet ECP standards. At every negotiation thereafter the union urged, without success, that ECP should give way to another, more equitable arrangement. In 1970 they made it a strike issue. The company, in response, inserted into the contract of January 8, 1971, a letter of commitment: it would look into possible substitutes for ECP, make recommendations by November 1 of that year, and then work with the union to develop a mutually acceptable plan.

Management Willing to Change

In fact, management had already done some homework on the subject. In the 1968 negotiations the union had suggested that a profit-sharing plan should replace ECP. Management rejected profit-sharing but did investigate over the next two years a number of plantwide incentive schemes. Of these, the Scanlon plan looked the most attractive. Accordingly, Huntington Alloys invited Fred Lesieur, a consultant who was known as a leading exponent of Scanlon, to make a presentation to management in early 1970. At the meeting the large size of the work force at Huntington caused some concern, since Scanlon works best in a plant with 1,500 or less employees.

Inasmuch as the new Burnaugh plant then had a small work force, a single process (melting), and no incentive system for nonexempt employees, Scanlon could be introduced with few problems. Therefore, shortly afterward, the consultant was asked to make presentations to Burnaugh's managers and union. After further consultation and design work a plan was tailored to Burnaugh's needs and outlined to the hourly and salaried people, 90 percent of whom voted to adopt it. Within a year after taking effect, the plan was paying better than the average of Huntington's ECP.

Union Favors Scanlon

During this period the president of Local 40 and the international district representative of the USWA pursued their own investigation of possible alternatives to ECP. Independently they concluded that Scanlon held the greatest promise of meeting their criteria of equity, good bonus payments, improved labor-management relations, and an opportunity for workers to make suggestions and be sure that management listened. Questions of employee security played no part in their search.

Company Also Leaned Toward Plan

The company leaned toward Scanlon because it promised what the hourly workers most wanted, an opportunity to make higher and more fairly distributed incentive earnings. This, it was hoped, together with the plan's basic problem-solving approach, would ameliorate labor-management relations. In addition, the company believed the plan would give employees a better understanding of the business and stimulate them to take more active responsibility for the conduct of their jobs.

Higher incentive earnings under the plan would stem from higher productivity which would be achieved in three ways. First, on jobs where performance was already satisfactory under ECP, the removal of individual incentives would be offset by better teamwork. Second, on jobs with capped standards, the new plan would spur performance by raising incentive earnings. Third, under Scanlon, incentive earnings would be tied to the performance of the company as a whole, whereas under ECP high individual performance could be canceled by poor quality and poor teamwork.

In a 1967 opinion survey Huntington's salaried employees had criticized the company's internal communications, its unresponsiveness to suggestions, and the tenuous relation beween performance and incentive earnings. Scanlon seemed well suited to answer these objections and gain the confidence of the employees, whose participation was integral to the plan.

Burnaugh's happy experience reinforced both company and union in choosing the Scanlon plan, notwithstanding the radical difference between the situation of the two plants.

Committees Appointed

Late in the spring of 1971 the consultant met at Huntington with all salaried and hourly people in mixed groups. Management and union were heartened by the favorable reaction to these meetings, and that autumn each appointed a high-level committee to develop a plan in collaboration with the consultant. These met together, first at a local hotel, then at the plant, then at the union hall, and by the spring of 1972 they agreed upon ground rules.

Because the plan needs overwhelming support and cooperation from the start, the consultant had cautioned against adoption unless 80 percent of all employees voted for it. Therefore, the committees undertook a joint program to win employee acceptance.

Participation of salaried employees turned into a thorny issue, because not only the hourly employees' ECP would be replaced but also the four varied incentive systems covering separate categories of salaried people. Many of these stood to lose by the change. Moreover, hourly workers viewed salaried people as contributing nothing to productivity and were hostile to being linked with them in any way. There was also resentment of the greater lenience of the existing salaried incentives. Eventually the union leaders persuaded the hourly workers that such functions as selling, planning, scheduling, quality control, accounting, and even clerical work, were indispensable to the plant's operation.

Security Issues Needed Resolution

Before the requisite 80 percent would vote approval, three employee security issues had to be resolved: (1) Hundreds of hourly workers (about 20 percent of the total) were enjoying above-normal incentive earnings and feared that under Scanlon they would not only lose their advantage but also suffer more than the others if the plan did not produce good bonuses. (2) Salaried employees, with their more lenient incentives, had a similar concern. (3) Hourly employees in general were worried that "working smarter" and more productively under Scanlon would expose them to the danger of layoffs.

The committees devised a transition pay arrangement to protect hourly and salaried personnel whose bonus earnings were above average. On the assumption that it might take Scanlon two years to build up to the ECP bonus average of 15 percent, hourly employees' earnings for the first 25 months would be supplemented by transition pay in an amount equal to their average incentive earnings over the better of two recent periods, which would then diminish by 4 percent a month until it reached zero. For each affected salaried employee, transition pay would begin at 15 percent of the average pay earned during 1970-71, excluding incentive pay, and then decline similarly over a 25-month period. In addition, Scanlon bonus would be paid to both hourly and salaried workers in any month it was earned.

Fear of Layoffs Removed

The fear of productivity layoffs remained. Throughout the germination period hourly employees had been exposed to the idea of Scanlon bonuses being keyed to the achievement of productivity gains through "working smarter, not harder." As against the counterproductive effects of ECP, employees envisaged a great leap in performance and earnings as soon as the era of cooperation began. But there was a catch. If they acted in good faith and went flat out to increase productivity, management would discover how far below potential the plant had been working. Would the company then use this knowledge to cut the work force back to the number that was actually needed?

The contract furnished some protection against such an event, but not enough to quiet all fears. Three articles were particularly relevant: (1) Plant and departmental seniority determined the order of promotions, demotions, permanent transfers, layoffs, recalls, and bidding for jobs. (2) An Income Protection Plan (IPP) maintained base and incentive earnings when employees with 10 years' or more seniority were transferred because of technological change or similar reason. Protection continued so long as employees bid for and/or accepted any better-paid jobs in the plant which became vacant and for which they were eligible. (3) The main security against layoffs was provided by the Extra Vacation Program (EVP), whereby every employee built up a "bank" of extra vacation weeks -- one week for each year in which 1,200 or more hours were worked -- payable on the basis of average earnings and unrelated to regular vacation rights. In the words of the contract:

> Whenever the Company in its judgement deems that...employees with four or more years of plant seniority would be permanently laid off on account of lack of work, the Company shall, in order to minimize such layoffs insofar as practicable, schedule [up to five] extra vacation weeks standing to the credit of [such employees]... considering the wishes of the employees, the minimization of such layoffs, and the requirements of operations.

An employee with more than five extra vacation weeks to his credit could also request some or all of his additional weeks to be scheduled within the coming 52 weeks. Neither death, retirement, termination, nor legal process for debts could affect his right to be paid for those weeks.

By separate agreement, an hourly worker may retire on full pension at age 58 after 30 years' service with annual benefit of 1.5 percent x annual compensation x years of service, or $120 x years of service, whichever is greater. A supplement of $6 per month for each year of service is paid and insurance coverages are continued until the retiree is eligible for Social Security. The agreement also allows retirement at age 55 after 20 years' service, with somewhat smaller benefits.

Less Senior Employees Unprotected

Desirable as these provisions were, they still left unprotected the employees most at risk in the event of productivity layoffs: those who were less senior. The rules covering promotions, transfers, etc., favored long service; the IPP applied to employees with 10 years' or more seniority; the EVP, to employees with four years' or more; early retirement protected workers with a minimum of 20 years. Also the EVP was primarily to tide employees over periods of slack demand, which the company could not control, whereas productivity layoffs connote permanent elimination of jobs, taken on the initiative of the company itself.

Bearing in mind these gaps in the contract, the union leaders deliberated the question of productivity layoffs and decided not to seek special assurances from the company for the following reasons: (1) The initiative for changing the system had been the union's, not management's. (2) As a matter of policy, the company would grant no special assurances against layoffs. (3) The five-year business cycle was at its nadir and the work force had already been shaved close. (4) Despite the slump, they believed that the backlog of orders would sustain the plant at current levels of operation for two years. (5) Engineered standards and ECP had ensured that the work force contained little fat. (6) Huntington Alloys had always followed a cautious policy in hiring so as to hold layoffs to a minimum. (7) If plant performance under Scanlon improved, as they believed it would, sales would also improve; because the company was strongly motivated to expand, it would not cut back but rather hire more people as had been done at Burnaugh. (8) If, contrary to expectations, business should get worse instead of better, hourly employees held a trump card. Since the plant was not machine-paced, employees had the power to slow the pace and spread the work in defiance of union rules and thereby prevent layoffs they considered unfair.

The union was correct in believing that company policy barred an attrition clause against productivity layoffs. However, had such a policy been allowed, an attrition clause would have entailed minimal risk, since the number of hourly employees approaching retirement exceeded any foreseeable reduction.

Employees Vote on Plan

Once the details of the plan and the measures for dispelling insecurity had been settled by the committees, the company issued several carefully prepared bulletins outlining the main features. In tent meetings conducted jointly by management and union, final proposals were spelled out to all hourly and salaried people. In August 1972 the plan was put to the vote, with hourly and salaried workers balloting separately.

Well over 90 percent of the salaried and 74 percent of the hourly employees voted for the plan. However, opponents of the plan had previously won a motion making union acceptance conditional on an 80 percent favorable vote, and the union was stymied. At this point Scanlon supporters demanded a special meeting, which the rule book allowed, and pushed through a resolution committing the union to adopt Scanlon for a two-year trial period. This action became a lasting source of criticism against the plan.

The parties put the Scanlon agreement into a document separate from the main labor-management agreement, a separation which is maintained in most other respects, such as termination date, grievance handling, election of representatives, and conduct of strikes and lockouts.

The plan took effect as of August 1, 1972. A few days later Burnaugh employees voted to tie theirs to what became a combined Huntington-Burnaugh measurement of productivity.

In July 1974 the plan came up again for approval at both plants. A series of meetings was held with all employees and the experiences of the two-year trial period were reviewed. When a vote was taken, almost 85 percent chose to make the plan permanent.

ELEMENTS OF THE PLAN

The Scanlon plan is conceived by management and the union fundamentally as an equitable incentive system which enables the work force as a whole to earn incentive compensation by raising the productivity of the company as a whole. Every regular employee, both hourly or salaried, except the president and executive vice-president, is a participant.

Productivity is measured by the ratio of payroll cost to value of production. Payroll cost includes all payments of any kind made to eligible participants, omitting only Scanlon bonus payments. Value of production is defined as gross sales minus returns and allowances, plus other revenues, plus or minus the change in value of finished goods in inventory (at cost). These definitions focus attention on how the company, rather than individuals, groups, or departments, has performed. They do not distinguish hourly from salaried contributions.

Bonus is calculated and distributed monthly and is payable whenever the actual payroll cost for a month is lower than the allowed payroll cost. To calculate the allowed payroll cost, a given month's ratio of production is multiplied by the ratio that prevailed in the base year 1970 (which was more favorable to both sides than any other year from 1965 to 1970).

The bonus pool is divided with 75 percent going to the employees and 25 percent to the company. Each employee's share is based on the proportion of his monthly earnings to the actual payroll.

Suggestion-Communications Network Established

Teamwork and ingenuity, considered to be the sources of Scanlon plan productivity, are stimulated and organized by an elaborate suggestion-communications network. The three-tiered structure consists of 34 production committees, 8 screening committees, and 1 planning and review committee. All committees are made up of managers and employee representatives, with a manager in the chair; average membership is six.

The committees meet at least once a month to solicit, receive, and dispose of suggestions according to a strict timetable. In addition, the planning and review committee, which is chaired by the president or his delegate, presents for the company facts and figures that entered into the calculations before the bonus is announced.

Committee chairmen are encouraged to "feed the system"; i. e., to pose operational problems and solicit members' suggestions. Final decisions in all matters that come before committees are reserved to the company.

THE PLAN IN OPERATION

As of June 1976, managers and other participants agreed that on the whole the plan had fulfilled its promise but was being severely tested by the depressed condition of the nickel alloy industry.

As evidenced by the declining ratio of payroll cost to value of production, productivity rose significantly during the first three years of the plan, when the industry prospered. The Scanlon bonuses matched or surpassed the 14 percent of the former system; for the first year (actually 10 months) of Scanlon, bonuses including transition payments averaged about 14.5 percent; for the second year, they averaged 17.5 percent; for the third year, the average was 24.8 percent. For the fourth calendar year to date, the average had fallen to 11.0 percent, coinciding with the fall in business.

The results are generally taken as proof that the plan works during good times, and people confidently predict that productivity will zoom when business turns up again. The question is, can the plan stay afloat during hard times?

Cooperation Heightened

When asked to pinpoint just where and how productivity has improved, most managers and employees throw up their hands. Individual, group, and departmental performance, after taking into account changes of capital investment and product mix, seem to be much as before. But several conditions have altered, and these seem to improve the operation of the whole more than of the parts.

The change most frequently mentioned is a palpable growth of cooperation. Operational changes are carried out with less disruption. The various units of the organization mesh together more flexibly, smoothly and purposefully. Salaried and hourly employees act like members of the same business, rather than strangers.

The strife that characterized the previous incentive system has stopped, but not completely. Still unreconciled are those hourly people who made abnormally high bonuses under ECP: for example, where in the past they would alert a supervisor as soon as materials or tools ran low, they now let him find out for himself.

Far less of production time is being spent on labor-management disputes. Grievances are down from a few hundred a year to 12; arbitrations, from eight a year to two. Not that there are fewer disputes, but the vast majority are now resolved by discussion, at early stages before positions harden. Today when a dispute becomes a formal grievance, it has substance.

Quality Improves

Another factor contributing to higher productivity is that the ratio keeps employees' minds on quality. They know that goods returned due to defects count against the monthly value of production, and that poor work at any stage of production impedes subsequent stages.

The suggestion-communication mechanism also has contributed to higher performance, more, thus far, because of its effect on cooperation than the intrinsic merit of the suggestions, although the cumulative weight of small changes should not be underestimated. The flow of suggestions has been modest. Supervisors and employees in the past were not encouraged to innovate, so they did not develop the aptitude. Now they are learning slowly.

About two-thirds of all Scanlon suggestions are adopted. A rejection is always accompanied by a statement of reasons. When implementation is delayed, it is usually because engineers and craftsmen have higher priority work to complete.

Employees eagerly seek public recognition when a suggestion is adopted: there is no other reward. Unfortunately, many workers are scared off by the formal procedure and the requirement of writing, while lack of skill in presentation often obscures the value of their ideas.

Managers freely admit they have much to learn about mining suggestions. Burnaugh has progressed faster than Huntington in "feeding the system," which may help to explain why Burnaugh has a higher per capita rate of suggestions.

As the employees see it, the greatest benefit of the committees is that they compel management to communicate about vital subjects. Gradually the two sides have restored to management the credibility whose absence used to hinder cooperation. Mistrust of the old incentive system was so ingrained that it took company and union a long while to convince employees that management does not juggle Scanlon figures. The union is able to verify the weight of goods shipped out; and the weight of products going into inventory is announced weekly to superintendents, who are free to discuss it with the union. Every six months the company holds a performance review which is attended by representatives of all committees and union officials. And when anything goes wrong that might harm the monthly bonus, management explains it at once.

In the other direction, managers find themselves talking more with workers about the way work is done and picking up more valuable information.

Productivity and Earnings Increased

Thus, the Huntington Alloys plan has demonstrably increased companywide productivity and incentive earnings, and these gains have been accompanied by higher employment and an increase in employee security. Unfortunately, the hourly employees do not yet feel more secure, and this retards progress.

As the union foresaw, better business conditions and higher performance served to augment rather than reduce the work force. Between August 1972 and June 1976 the number of participating employees grew by about 25 percent. In fact, business began to pick up strongly toward the end of 1972, and about 650 people were hired in two years. The company built a training allowance into the calculation, as had been done in the early days at Burnaugh, to shield the bonus against their inexperience.

There have been no layoffs since adoption of the plan. Reductions in force, when needed, have been managed by attrition. In departments where major technological changes have occurred, surplus employees have been absorbed through inplant transfers and their earnings supported by the Income Protection Plan.

Job Displacement Fears Persist

Nevertheless, fears of job displacement continue to vex the hourly people, with the result that many opportunities for higher productivity and earnings are foregone. Managers and employees shy away from any work or act that might be construed as an intent to get work done with fewer people. For example:

- Hourly and salaried employees do not hesitate to suggest changes of hardware or process that might affect manpower indirectly, but they rarely propose methods of directly reducing the number of people on a given operation.

- Tradesmen have made clear their hostility to "crossing," i.e., elimination of jurisdictional lines, because they believe this would raise productivity sharply and thus create redundancies. (However, they urge that production workers should relieve them of simple, repetitive maintenance tasks.)

- The introduction of new processes is still

> accepted reluctantly, though less than before. Any improvement stems from the fact that employees on new processes no longer lose bonus earnings during the break-in period.

Sensitivity to employee insecurity has shaped the company's response to the serious downturn of business in recent months. (Ironically, disclosure of information about backlogs makes employees feel less secure.) Under the contract, the company would have been free to meet the situation by laying people off or scheduling extra vacations. Instead, it has tried to keep them busy producing for needed inventory, a course that combines responsible manpower policy with practical advantage. On one hand, it demonstrates appreciation of the new spirit prevailing in the plant and relieves fears of displacement. On the other, it holds the work force together and puts the company in a position to fill orders rapidly as soon as the market turns.

Here good intentions run up against the fact that incentive payments are at the heart of the Scanlon plan. By keeping the work force intact, payroll cost is prevented from decreasing, while the value of production is depressed by slack demand and producing-for-inventory (which is assessed at 75 percent of sales value). Consequently bonuses, which are based on the ratio of payroll cost to value of production, averaged in 1976 below those of the old system.

The lowered bonus levels have awakened discontent in a small but not negligible proportion of the work force, whose long service insulates them from the threat of layoff and who resent having to make financial sacrifices on behalf of junior people. The majority of workers have their fingers crossed, hoping that as business and bonuses rise, the objections may be stilled.

Producing for inventory has had a paradoxical effect. Economic theory predicts that workers should step up the pace of production in order to counteract the lower value of inventory goods. In fact, they have quietly slackened the pace, letting the work stretch out. Although they know this disregard of the contract embarrasses the union, what troubles them even more is fear that the company may build inventory and then lay them off.

EPILOGUE

While employees and managers generally approved the decision to produce for inventory in order to avert layoffs, they were apprehensive as to whether the policy subjects the Scanlon plan to undue strain. Suppose it takes longer than expected for business to turn up, and management ultimately has to lay people off; won't the sacrifice of bonuses appear to have been in vain? Won't the anti-Scanlon forces exploit the cynicism that follows?

Behind this uneasiness lies the implied question of whether it is a proper function of the plan to maintain employment levels against the impact of economic conditions beyond the company's control. Management's right to vary the size of the work force with business demand, subject to contractual rules, had long been accepted, and nothing in the Scanlon agreement suggests a contrary intent. Nor did the question emerge, explicitly or otherwise, in the negotiations. Fears of possible layoffs did come to the notice of the union, but because those related specifically to the effects of increased productivity, the union did not raise them with the company. On the other hand, the pursuit of large incentive earnings was a key objective of the plan.

If, as the evidence indicates, hourly employees do not consider the company obligated to keep them at work when demand is slack, how can the stretch-out be accounted for? One view is that since it is natural for workers to react thus when they see work tail off, especially in a period of high unemployment, this would happen whether there was an incentive plan or not.

An alternative hypothesis is that the stretch-out represents an attempt to provide themselves, in crude, unorganized fashion, with the protection which the union decided not to ask of the company; namely, protection against the effects of higher productivity. That is, it may be a way of ensuring that the company does not take advantage--at their expense--of the productivity improvements made since August 1972. Lacking an explicit, bankable assurance from the company, the workers may have played their "trump card," self-help.

An explicit assurance, even if of limited extent, carries more weight than a broader protection which the company can withdraw at will.

One way to test this hypothesis would be to adopt a formula under which (1) employees are assured that everyone will benefit and no one will lose from any kind of productivity improvement, while (2) the company assumes no more than a manageable risk. Something rough and ready might suffice. For example, the parties might agree that no hourly worker will be laid off so long as fewer people are on the payroll than would have been needed to produce current output under pre-Scanlon conditions, making due allowance for changes of investment and product mix since 1972.

An assurance along these lines would be consistent with the Scanlon goals of high earnings and high productivity through cooperation. In the long haul, by strengthening the company's market position, it might also yield greater security against economic layoffs than can any measures of employee self-help.

SELECTED PUBLICATIONS RELATING TO PRODUCTIVITY AND JOB SECURITY

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